

## SEQUENCE LISTING

<110> Kenneth W. Dobie  
Mark P. Roach

<120> ANTISENSE MODULATION OF NOD1 EXPRESSION

<130> RTS-0337

<160> 96

<210> 1  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 1

tccgtcatcg ctcctcaggg

20

<210> 2  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 2

atgcattctg cccccaagga

20

<210> 3  
<211> 4390  
<212> DNA

<213> Homo sapiens

<220>

<220>

<221> CDS

<222> (425) . . . (3286)

<400> 3

ctcttagctct cagcggctgc	gaagtctgta	aacctggtgg	ccaaagtgatt	gtaaatcgagg	60
agactttcct tcggtttctg	cctttgatgg	caatttcctt	cggtttctgc	ctttgatggc	120
aagaggtgga	gattgtggcg	gchgattacag	agaacgtctg	ggaagacaag	180
tatggaaatc	gcaggcttgg	aagagacaga	agcaattcca	gaaataaatt	240
gatttaaaca	atgttgaaaa	aaaatattct	aacttcaaag	aatgatgcca	300
aaggggctgc	gcagagtagc	aggggcccctg	gagggcgcgg	cctgaatcct	360
ctgctgagag	gacacacgc	gctgaagatg	aatttggaa	aatgtccgc	420
aact atg gaa	gag cag	cac agt	gag atg	gaa ata atc	469
Met Glu Glu Gln	Gly His Ser	Glu Met Glu	Ile Ile Pro	Ser Glu	
1	5	10	15		
tct cac ccc cac att caa tta ctg aaa agc aat	cgg gaa ctt ctg gtc				517
Ser His Pro His Ile Gln Leu Leu Lys Ser Asn Arg	Glu Leu Leu Val				
20	25	30			
act cac atc cgc aat act cag tgt ctg gtg gac aac ttg	ctg aag aat				565
Thr His Ile Arg Asn Thr Gln Cys Leu Val Asp Asn	Leu Leu Lys Asn				
35	40	45			
gac tac ttc tcg gcc gaa gat	gcg gag att gtg tgt	gcc tgc ccc acc			613
Asp Tyr Phe Ser Ala Glu Asp Ala Glu Ile Val Cys	Ala Cys Pro Thr				
50	55	60			
cag cct gac aag gtc cgc aaa att ctg gac	ctg gta cag agc aag ggc				661
Gln Pro Asp Lys Val Arg Lys Ile Leu Asp Leu Val	Gln Ser Lys Gly				
65	70	75			
gag gag gtg tcc gag ttc ttc tac ttg ctc cag	caa ctc gca gat				709
Glu Glu Val Ser Glu Phe Leu Tyr Leu Leu Gln Gln	Leu Ala Asp				
80	85	90	95		
gcc tac gtg gac ctc agg cct tgg ctg ctg gag	atc ggc ttc tcc cct				757
Ala Tyr Val Asp Leu Arg Pro Trp Leu Leu Glu Ile	Gly Phe Ser Pro				
100	105	110			

tcc ctg ctc act cag agc aaa gtc gtg gtc aac act gac cca gtg agc			805
Ser Leu Leu Thr Gln Ser Lys Val Val Val Asn Thr Asp Pro Val Ser			
115	120	125	
agg tat acc cag cag ctg cga cac cat ctg ggc cgt gac tcc aag ttc			853
Arg Tyr Thr Gln Gln Leu Arg His His Leu Gly Arg Asp Ser Lys Phe			
130	135	140	
gtg ctg tgc tat gcc cag aag gag gag ctg ctg ctg gag gag atc tac			901
Val Leu Cys Tyr Ala Gln Lys Glu Glu Leu Leu Leu Glu Glu Ile Tyr			
145	150	155	
atg gac acc atc atg gag ctg gtt ggc ttc agc aat gag agc ctg ggc			949
Met Asp Thr Ile Met Glu Leu Val Gly Phe Ser Asn Glu Ser Leu Gly			
160	165	170	175
agc ctg aac agc ctg gcc tgc ctc ctg gac cac acc acc ggc atc ctc			997
Ser Leu Asn Ser Leu Ala Cys Leu Leu Asp His Thr Thr Gly Ile Leu			
180	185	190	
aat gag cag ggt gag acc atc ttc atc ctg ggt gat gct ggg gtg ggc			1045
Asn Glu Gln Gly Glu Thr Ile Phe Ile Leu Gly Asp Ala Gly Val Gly			
195	200	205	
aag tcc atg ctg cta cag cgg ctg cag agc ctc tgg gcc acg ggc cgg			1093
Lys Ser Met Leu Leu Gln Arg Leu Gln Ser Leu Trp Ala Thr Gly Arg			
210	215	220	
cta gac gca ggg gtc aaa ttc ttc ttc cac ttt cgc tgc cgc atg ttc			1141
Leu Asp Ala Gly Val Lys Phe Phe Phe His Phe Arg Cys Arg Met Phe			
225	230	235	
agc tgc ttc aag gaa agt gac agg ctg tgt ctg cag gac ctg ctc ttc			1189
Ser Cys Phe Lys Glu Ser Asp Arg Leu Cys Leu Gln Asp Leu Leu Phe			
240	245	250	255
aag cac tac tgc tac cca gag cgg gac ccc gag gag gtg ttt gcc ttc			1237
Lys His Tyr Cys Tyr Pro Glu Arg Asp Pro Glu Glu Val Phe Ala Phe			
260	265	270	
ctg ctg cgc ttc ccc cac gtg gcc ctc acc ttc gat ggc ctg gac			1285
Leu Leu Arg Phe Pro His Val Ala Leu Phe Thr Phe Asp Gly Leu Asp			
275	280	285	

gag ctg cac tcg gac ttg gac ctg agc cgc gtg cct gac agc tcc tgc			1333
Glu Leu His Ser Asp Leu Asp Leu Ser Arg Val Pro Asp Ser Ser Cys			
290	295	300	
ccc tgg gag cct gcc cac ccc ctg gtc ttg ctg gcc aac ctg ctc agt			1381
Pro Trp Glu Pro Ala His Pro Leu Val Leu Leu Ala Asn Leu Leu Ser			
305	310	315	
ggg aag ctg ctc aag ggg gct agc aag ctg ctc aca gcc cgc aca ggc			1429
Gly Lys Leu Leu Lys Gly Ala Ser Lys Leu Leu Thr Ala Arg Thr Gly			
320	325	330	335
atc gag gtc ccg cgc cag ttc ctg cggt aag aag gtg ctt ctc cgg ggc			1477
Ile Glu Val Pro Arg Gln Phe Leu Arg Lys Lys Val Leu Leu Arg Gly			
340	345	350	
ttc tcc ccc agc cac ctg cgc gcc tat gcc agg agg atg ttc ccc gag			1525
Phe Ser Pro Ser His Leu Arg Ala Tyr Ala Arg Arg Met Phe Pro Glu			
355	360	365	
cgg gcc ctg cag gac cgc ctg ctg agc cag ctg gag gcc aac ccc aac			1573
Arg Ala Leu Gln Asp Arg Leu Leu Ser Gln Leu Glu Ala Asn Pro Asn			
370	375	380	
ctc tgc agc ctg tgc tct gtg ccc ctc ttc tgc tgg atc atc ttc cgg			1621
Leu Cys Ser Leu Cys Ser Val Pro Leu Phe Cys Trp Ile Ile Phe Arg			
385	390	395	
tgc ttc cag cac ttc cgt gct gcc ttt gaa ggc tca cca cag ctg ccc			1669
Cys Phe Gln His Phe Arg Ala Ala Phe Glu Gly Ser Pro Gln Leu Pro			
400	405	410	415
gac tgc acg atg acc ctg aca gat gtc ttc ctc ctg gtc act gag gtc			1717
Asp Cys Thr Met Thr Leu Thr Asp Val Phe Leu Leu Val Thr Glu Val			
420	425	430	
cat ctg aac agg atg cag ccc agc agc ctg gtg cag cgg aac aca cgc			1765
His Leu Asn Arg Met Gln Pro Ser Ser Leu Val Gln Arg Asn Thr Arg			
435	440	445	
agc cca gtg gag acc ctc cac gcc ggc cgg gac act ctg tgc tcg ctg			1813
Ser Pro Val Glu Thr Leu His Ala Gly Arg Asp Thr Leu Cys Ser Leu			
450	455	460	

ggg cag gtg gcc cac cgg ggc atg gag aag agc ctc ttt gtc ttc acc Gly Gln Val Ala His Arg Gly Met Glu Lys Ser Leu Phe Val Phe Thr 465	470	475	1861
cag gag gag gtg cag gcc tcc ggg ctg cag gag aga gac atg cag ctg Gln Glu Glu Val Gln Ala Ser Gly Leu Gln Glu Arg Asp Met Gln Leu 480	485	490	1909
ggc ttc ctg cgg gct ttg ccg gag ctg ggc ccc ggg ggt gac cag cag Gly Phe Leu Arg Ala Leu Pro Glu Leu Gly Pro Gly Gly Asp Gln Gln 500	505	510	1957
tcc tat gag ttt ttc cac ctc acc ctc cag gcc ttc ttt aca gcc ttc Ser Tyr Glu Phe Phe His Leu Thr Leu Gln Ala Phe Phe Thr Ala Phe 515	520	525	2005
ttc ctc gtg ctg gac gac agg gtg ggc act cag gag ctg ctc agg ttc Phe Leu Val Leu Asp Asp Arg Val Gly Thr Gln Glu Leu Leu Arg Phe 530	535	540	2053
ttc cag gag tgg atg ccc cct gcg ggg gca gcg acc acg tcc tgc tat Phe Gln Glu Trp Met Pro Pro Ala Gly Ala Ala Thr Thr Ser Cys Tyr 545	550	555	2101
cct ccc ttc ctc ccg ttc cag tgc ctg cag ggc agt ggt ccg gcg cgg Pro Pro Phe Leu Pro Phe Gln Cys Leu Gln Gly Ser Gly Pro Ala Arg 560	565	570	2149
gaa gac ctc ttc aag aac aag gat cac ttc cag ttc acc aac ctc ttc Glu Asp Leu Phe Lys Asn Lys Asp His Phe Gln Phe Thr Asn Leu Phe 580	585	590	2197
ctg tgc ggg ctg ttg tcc aaa gcc aaa cag aaa ctc ctg cgg cat ctg Leu Cys Gly Leu Leu Ser Lys Ala Lys Gln Lys Leu Leu Arg His Leu 595	600	605	2245
gtg ccc gcg gca gcc ctg agg aga aag cgc aag gcc ctg tgg gca cac Val Pro Ala Ala Ala Leu Arg Arg Lys Arg Lys Ala Leu Trp Ala His 610	615	620	2293
ctg ttt tcc agc ctg cgg ggc tac ctg aag agc ctg ccc cgc gtt cag Leu Phe Ser Ser Leu Arg Gly Tyr Leu Lys Ser Leu Pro Arg Val Gln 625	630	635	2341

gtc gaa agc ttc aac cag gtg cag gcc atg ccc acg ttc atc tgg atg			2389
Val Glu Ser Phe Asn Gln Val Gln Ala Met Pro Thr Phe Ile Trp Met			
640	645	650	655
 ctg cgc tgc atc tac gag aca cag agc cag aag gtg ggg cag ctg gcg			2437
Leu Arg Cys Ile Tyr Glu Thr Gln Ser Gln Lys Val Gly Gln Leu Ala			
660	665	670	
 gcc agg ggc atc tgc gcc aac tac ctc aag ctg acc tac tgc aac gcc			2485
Ala Arg Gly Ile Cys Ala Asn Tyr Leu Lys Leu Thr Tyr Cys Asn Ala			
675	680	685	
 tgc tcg gcc gac tgc agc gcc ctc tcc ttc gtc ctg cat cac ttc ccc			2533
Cys Ser Ala Asp Cys Ser Ala Leu Ser Phe Val Leu His His Phe Pro			
690	695	700	
 aag cggtt ctt gtt ctt gtt aat ctt aat gtt ttt gtt ttt gtt			2581
Lys Arg Leu Ala Leu Asp Leu Asp Asn Asn Leu Asn Asp Tyr Gly			
705	710	715	
 gtt ttt ctt			2629
Val Arg Glu Leu Gln Pro Cys Phe Ser Arg Leu Thr Val Leu Arg Leu			
720	725	730	735
 atc acc aaa tac aaa att gtg acc tat ttg ggt tta tac aac aac cag			2677
Leu Thr Lys Tyr Lys Ile Val Thr Tyr Leu Gly Leu Tyr Asn Asn Gln			
740	745	750	
 ctg acc aaa tac aaa att gtg acc tat ttg ggt tta tac aac aac cag			2725
Leu Thr Lys Tyr Lys Ile Val Thr Tyr Leu Gly Leu Tyr Asn Asn Gln			
755	760	765	
 atc acc gat gtc gga gcc agg tac gtc acc aaa atc ctg gat gaa tgc			2773
Ile Thr Asp Val Gly Ala Arg Tyr Val Thr Lys Ile Leu Asp Glu Cys			
770	775	780	
 aaa ggc ctc acg cat ctt aaa ctg gga aaa aac aaa ata aca agt gaa			2821
Lys Gly Leu Thr His Leu Lys Leu Gly Lys Asn Lys Ile Thr Ser Glu			
785	790	795	
 ggtt ttt ctt			2869
Gly Gly Lys Tyr Leu Ala Leu Ala Val Lys Asn Ser Lys Ser Ile Ser			
800	805	810	815

gag gtt ggg atg tgg ggc aat caa gtt ggg gat gaa gga gca aaa gcc Glu Val Gly Met Trp Gly Asn Gln Val Gly Asp Glu Gly Ala Lys Ala	820	825	830	2917	
ttc gca gag gct ctg cgg aac cac ccc agc ttg acc acc ctg agt ctt Phe Ala Glu Ala Leu Arg Asn His Pro Ser Leu Thr Thr Leu Ser Leu	835	840	845	2965	
gcg tcc aac ggc atc tcc aca gaa gga gga aag agc ctt gcg agg gcc Ala Ser Asn Gly Ile Ser Thr Glu Gly Lys Ser Leu Ala Arg Ala	850	855	860	3013	
ctg cag cag aac acg tct cta gaa ata ctg tgg ctg acc caa aat gaa Leu Gln Gln Asn Thr Ser Leu Glu Ile Leu Trp Leu Thr Gln Asn Glu	865	870	875	3061	
ctc aac gat gaa gtg gca gag agt ttg gca gaa atg ttg aaa gtc aac Leu Asn Asp Glu Val Ala Glu Ser Leu Ala Glu Met Leu Lys Val Asn	880	885	890	895	3109
cag acg tta aag cat tta tgg ctt atc cag aat cag atc aca gct aag Gln Thr Leu Lys His Leu Trp Leu Ile Gln Asn Gln Ile Thr Ala Lys	900	905	910	3157	
ggg act gcc cag ctg gca gat gcg tta cag agc aac act ggc ata aca Gly Thr Ala Gln Leu Ala Asp Ala Leu Gln Ser Asn Thr Gly Ile Thr	915	920	925	3205	
gag att tgc cta aat gga aac ctg ata aaa cca gag gag gcc aaa gtc Glu Ile Cys Leu Asn Gly Asn Leu Ile Lys Pro Glu Glu Ala Lys Val	930	935	940	3253	
tat gaa gat gag aag cgg att atc tgt ttc tga gaggatgctt tcctgttcat Tyr Glu Asp Glu Lys Arg Ile Ile Cys Phe	945	950		3306	
ggggttttg ccctggagcc tcagcagcaa atgccactct gggcagtctt ttgtgtcagt gtcttaaagg ggcctgcgca ggcccggacta tcaggagtcc actgcctcca tgatgcaagc				3366	
cagcttcctg tgcagaaggt ctggtcgca aactccctaa gtacccgcta caattctgca aaaaaagaat gtgtcttgcg agctgttcta gttacagtaa atacactgtg aagagacttt				3426	
attgcctatt ataattattt ttatctgaag ctagaggaat aaagctgtga gcaaacagag gaggccagcc tcacacctt ccaacacctg ccatagggac caacgggagc gagttggtca				3486	
ccgctttt cattgaagag ttgaggatgt ggcacaaaagt tggtgccaaag cttcttgaat aaaacgtgtt tgatggatta gtattatacc tgaaatattt tcttccttct cagcacttcc				3546	
				3606	
				3666	
				3726	
				3786	

ccatgtattg atactggtcc cactcacag ctggagacac cgagtatgt gcagtgtggg 3846  
atttgactcc tccaagggttt tgtggaaagt taatgtcaag gaaaggatgc accacgggct 3906  
tttaattta atcctggagt ctcactgtct gctggcaaag atagagaatg ccctcagctc 3966  
ttagctggtc taagaatgac gatgccttca aaatgctgct tccactcagg gcttctcctc 4026  
tgcttaggcta ccctcctcta gaaggctgag taccatgggc tacagtgtct ggccttggga 4086  
agaagtgatt ctgtccctcc aaagaaaatag ggcatggctt gcccctgtgg ccctggcatc 4146  
caaatggctg ctttgcctc ctttacctcg tgaagagggg aagtctcttc ctgcctccca 4206  
agcagctgaa gggtgactaa acgggcgccca agactcaggg gatcggctgg gaactgggccc 4266  
agcagagcat gttggacacc cccccaccatg gtgggcttgt ggtggctgct ccatgagggt 4326  
gggggtgata ctactagatc acttgcctc ttgcccgtc atttgttaat aaaatactga 4386  
aaac 4390

<210> 4  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
  
<223> PCR Primer  
  
<400> 4  
gcaggcgaaaa ctatcagga 19

<210> 5  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
  
<223> PCR Primer  
  
<400> 5  
agtttgccga ccagacccatc t 21

<210> 6  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>

<223> PCR Probe

<400> 6

tccactgcct ccatgatgca agcc

24

<210> 7

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR Primer

<400> 7

gaaggtgaag gtcggagtc

19

<210> 8

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR Primer

<400> 8

gaagatggtg atgggatttc

20

<210> 9

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR Probe

<400> 9

caagcttccc gtttcagcc

20

&lt;210&gt; 10

&lt;211&gt; 21580

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; exon:intron junction

&lt;222&gt; (15377) ... (15378)

&lt;223&gt; exon 1b:intron 1b

&lt;221&gt; exon

&lt;222&gt; (18941) ... (19081)

&lt;223&gt; exon 2

&lt;400&gt; 10

tggccagggg	ctcaccctct	cgcaccgggc	gtccctctgc	gcmcagcttc	tctcgcccc	60
ccgcgccaga	cccgggcgaa	tggcagcacc	gtgggaccct	gccttgaccg	ccccggccct	120
tcggcggcct	ctcccagcag	ccggcaggct	cttgggcgcg	ccaacagagg	ggcgccggctg	180
cggctgtagt	cgcagccagt	tcccgttccg	ggcccgcgag	gcagccgccc	cggctctgcc	240
cctccctcgc	gctactgcgg	gagcagcgct	ctcccgggcc	acggcgcttc	ccggccccgg	300
cgtccccggga	ccatggcgct	ctccgggctc	tcctctagct	ctcagcggct	gcgaagtctg	360
taaaccttgtt	ggccaagtaa	gtcccagcga	ctggggattc	gcgcggggca	ggccctttct	420
gaggtcctgg	gcgctgcgag	tgaggaggcg	cagggaggcg	ggatttgcgt	gcggggcgaa	480
cgcagcgcgg	ctctggagga	gctctgggtg	gaaccaagcg	gagaaaccccg	cgagttgaa	540
gcatgttagcg	aaagttgaga	gggatgaact	tcacagtcag	cggaatcggt	tatcccactg	600
tggtcgaacg	caggggttct	caatcgtgcc	agcagcttag	aaccacctgg	ggagctttta	660
aaatccagat	atccaggctg	caccctagat	caattccatc	agaatctcac	ggagtcagac	720
ccaggccctcc	gtatctttta	aaagctcccc	aagtgattcc	agtgtgcagc	cagcgttcga	780
gggtttgtgg	caaaggctgg	aagggcagac	aggggccttc	atggagtcgg	gcctgcagac	840
gggacagcag	ctcccagtgt	cctgcttgg	cctggagaga	gggtgagaac	ttcccttggg	900
tttcatgttc	cacaaagtaa	ggaaatgaga	caatgcttgg	caaggtcgcc	tgaatatcac	960
attcaaaaac	gcctccaatg	tgtgcagttg	ttttggcaca	ttgtaaaaaa	cataggaaat	1020
gacagaggtt	gatgtctcat	tagctctgca	ttcttaggaaa	catttcgggtt	gttgggtttt	1080
gaaattaagt	ctggggaaagc	taagctagta	aaccatggc	tttgatgact	tctggccttt	1140
ctgctttaag	ggtgaagcca	ggggccggcg	cggtggctca	cgcctgtaat	cccagcactt	1200
tgggaggcca	aggcaggcgg	atcacctgag	gtcgagagtt	cgagaccagc	ctggcccaac	1260
atggtgaaac	cgtctctact	aaaaaaaaaa	aaaaaaaaaa	ttaaccgggc	gtggtggcgc	1320
atgcctgtaa	tcccagctac	tcgggaggct	gaagcaggag	aattgctga	accggggagg	1380
cagaggttgc	agtgagccga	gatccctg	ttgcgctcca	gcctggcaa	caagagcaaa	1440

actccgtcaa aaacaaacaa acaaacaaaa aacaaaaaaa cggtaagcc agaagtcgtg 1500  
 cttgccaaag ggtcgagtt gttccctc aaagcccctg ttgaagattt aactatcact 1560  
 ttcaggaaag agtaaaagag taactccacg atgcattta gagaggagt gattccctgt 1620  
 ttcaccctcg gcttagatgc cagggccag gtagctgaaa tccaggcaaa ccaggcattt 1680  
 acaaagtaca gacttctacc gaatatgcc aacagataag caagctgtgt taaaacaaa 1740  
 cagcagagt gtagaagagg gctttcaa atattgttaag aagagtaggt tttatTTT 1800  
 tggagtggag aaataagttc acgctttgga acccatcaaa tctgggtcaa aactcgatt 1860  
 ctgtcaccc tatgctgtga ctttggcaaa gttccttgac ctctccaagg ccctgtttc 1920  
 ccacctgtaa aataaagagc aaccctctcc tgaggctagc atagttcagc gagatgtgt 1980  
 gcatcacaca cctgaaagg ggtggcgctg gcaggtgctc tggcagaggt agttattaga 2040  
 cactggagtg gcagttgtg cccgttaatt gttacttag tacagccact atgagggaga 2100  
 atgtctataa aatgttccct tcaacgcctcc attccttctc ctgcccgtct gccccgctca 2160  
 gggccttagc gggcttaag tctgaaatct taggctgcaa atcccctcag tcccccaagg 2220  
 cgtattaatg gctctgaaat acagtttac tgcattgtat aggaatgaat atttgacac 2280  
 acacacactc aaaagctgtt cttaatctt agacttcctc ctctctgtt ccacatata 2340  
 atctttaaa tggcttcca agaaagctgg gctgtgcaca gtgtctcaga attagtgtat 2400  
 gtgcacacac acgcacgttg ctccctgctc acaacatctc cagaccatac cttgggtt 2460  
 cctgtttgc tcctgactct tggccttaggg acagtgaatc tttcttgaat gaccaaggac 2520  
 agtcaggat ctgaggaagg gagaaccctt attctacaat tgctgatgcc tgcgtcccag 2580  
 ctggaaacctt accctggtaat gtgcctgtt catcatggat ggtcaactt atcctaacac 2640  
 cagtgcgtt tagatttagac atcagaaata gaaacagtaa gtaatataagg cataaagatc 2700  
 aagtgtttt ctatgtatg tgtgtactt gatatttgc tacacaagac tatcaaagtc 2760  
 ttatcttta ttcaaagaaa aggattcaat attgttcaa aatctaagat atgaacgtag 2820  
 gatttaaggt ttaagttact agtttcttct atcatttta ttattgggg gatTTTTT 2880  
 aggcaagaag aaatttagaaa agctaaaatg tgtacttatg ctgaattttt gtcatgcaga 2940  
 ggctcttagt attttgcag ttttcaag tcccatTTT ttttatctt tagggacagt 3000  
 cagttgcattc tcacacaagg ggcctccctt gatttattca aaaggtctga cctggTTT 3060  
 ggaaaaactc tttagcgcattt caaataactcg ttgagggcaaa gtgttgcattc taaacttgac 3120  
 tcttgtggta agaggtgagt agtcactggc atgtcattt gctgacattt ttacccacg 3180  
 ctagaaagtt cattcaggca agacttcctg gctgaactc ttatTTAAAC atgtgtttt 3240  
 tctggaaactg ccacagtcca aactgtggc agagattctt gtgcagagtt ggctaaggca 3300  
 ggcattgcac cggcccttctt cttcgccatc ctccctgtct ctggagccat tgagccaacc 3360  
 ggggatgatg ccactctgaa gggatctcattt cttggccttc taatggggca gagttccctg 3420  
 atgagggatg cacgtcatttta gagccaacaa ggcaattttt tattataactg catggaaatt 3480  
 aaaagttact ctccagtaaa ctgccactt agaattttttt ttactgaagc gtcctttcc 3540  
 tctaaattat agagcactgt agtaaggccc cagataattt caaatgtgagc accagattt 3600  
 tgccagattt tggcagatta agattttat aaaacatgaa cattcacattt gattacattt 3660  
 gtttcagaaa gttgatgtcc cttggccttc tttctgtca ttgcccattt acaggttagg 3720  
 gtcagaattt ggagaatgta gtcattttt agatattttc agagccacat gcaactggc 3780  
 ctggcagtcata catattgcta aggaaacgcc ttacatgata gcagagctga gagcagatga 3840  
 tgattttactt gggagagtat tcgttttcta attccaaaaa gattaaagttt ctaatgtat 3900  
 agaactttcc ctgcttcttgc taacacatgc ccagattgt gcaacttgc tcaaaaccaa 3960  
 accttcttgg aaggaactgg gggaaagcta ggcttttttgcaggggata tcctaactcc 4020  
 ttacaacaca ggccccttca gtgagtggtt catttctgga ctccatttaa caaagcttagt 4080

gtttcatact taatatgaaa acaggcgtgt tcatgatttc aaatagagat gttgggtcta 4140  
taaaagtatac cagacatgca gggctgaaat ggaagaaaca atgggttttgc gagtcagaac 4200  
caggatccaa ttccctgtttt attccctact tcaggggtcc ccaatcccta ggccatggac 4260  
caataccagt cggtggcctc ttaggtggc cgcacagcag aaggtgagca gcagtgagca 4320  
agcattaccg cctgaactct gcctccgtc agatcagcgg tggcatcaga ttctcatgcg 4380  
aggggaaccc tatggtaac cgcacacgcg agggatctag gctgcacatt ccttatgaga 4440  
attnaatgcc tcatgatctg aggttagacag tttcatccta aaacgatctc ccctgtgccc 4500  
ctactcgccg ctgtctgtgg aaaaattgtc ttccatgaaa ccagttcctc gtgcacaaaa 4560  
ggttggggat cactgcctta actaactgtg tgacccctac caacatactt aaccactcca 4620  
actctgtgtc ctcccttgta aactagttac aataatgctt tccttgctgg gcagtttca 4680  
gtatattgtat agctaatactt tgtaaaagtgc ttagcacatc acccagcttc tagtaagtca 4740  
tgattatgtat gataaaagatt atgatgatta ctgggttcc agggctggc ttcccttctc 4800  
ctagttgtgt gacttcagat aaggtttta atcttcttga gccttggctt ttgaatctgt 4860  
aaaatggct aactctacact atctggaaag attgcttga ggcttgatatt gattaaatga 4920  
aatgatgaca ggcctgatct ggttagaccct aaataagaat agcattaca tagacttcct 4980  
gtgtcccaca ctggtctaag agtttaggt ttttgggtt tgtttttagc tcattttatc 5040  
ttccccagcgc ccctgtgcag tggttatcat ttcccttggtt ttatagagga gacaactgag 5100  
gctcaacaag attaaataac tagcccaaag tctatccag gacttgaagc agagtcctg 5160  
ttcttaacca ctgccccagc tgctcagtgatc gtaccccccac ccctgcttat tctacctacc 5220  
tcctgtatgcc catctcctgc cattaacagt cagatgtgct tatgctctgt gttagggccat 5280  
atttctggaa acagagcccc tgcttccaaa gagcagctt ctttaggaagt gaaagtggca 5340  
gctcactcct cctgtgcctt cctccactt ccagataaca ttaaacctca tccattgctt 5400  
aggctggta atatcaactg gaaaaaaaaa tctgataaccg atattgacta acattattag 5460  
agtgggttgc aatgttagtt tttagataaa tgcatactcg atgcactgag attgttagcc 5520  
tgtgtgtat aaaaacatgcc ttccacccaga cagatgtggg ggggtttgg aagacagaaa 5580  
ccaggccctag gagatcccag gttgagactc aggtggacag caacagtatt gaaaataata 5640  
ttacatcaaa ggtgcagtgg tctgttctaa gtacaccacc ttttctgaca ttcccttactc 5700  
atcctccctc tcctttaccc cagtggtttt ggccttctt tgtagttctgg caatctccc 5760  
tgaggtctgg gtcagtgaa tttgggggcc cagaaaggca aattctcagt tgagttaggt 5820  
gtggcttctt tagatttcct gataatgagg tagtaattgc ttttctgct ttctgtgtgt 5880  
gtgaagtgtct ctgctggccc cctaccctgg tggtaaggc tgtagaaag ctatattatag 5940  
ctcttggctt cttctggcac tttggggctt caattctgca acatgttaat tcaacaaata 6000  
ttatcagaaa gtcttgctgg tgccaggagt ctactaagta cttggattac agcaatgaat 6060  
gaaacagacc ctgcctctgg ccatatggaa tttggaggct gcccgggtgg aaggatgtct 6120  
tagtcagctt ggggtgctaa aactatcaca gactggggga cttaagcaac aaacatttat 6180  
ctctcagact tctgcaggct ggaagtgtga gacccgttgc ccagcatggg agttgggtga 6240  
ggacccttctt cctgatttgc gaaagaggt tctcatgtct cttgctataa gggactaat 6300  
cccatcattt gggctccacc cccacgaccc cattaaacc tattcaccc ccaacagccc 6360  
tatctgtaaa caccatcaaa tcgggggttc tccctcacca tggtaactt ggagggacat 6420  
aaacatcagt ccataagtag gaggttaggg cagtaagcagc acaggttaat acataattgt 6480  
aacttgcgtt aagtgcgtt agtgaaaaca acagcatgtc atgagacagg agatcagagc 6540  
agaactagaa ttaggagact ctggggacgc ctctcaagga atgagccctt tcaacttagga 6600  
cttggatgtt aaaaagagt gaaatcatgc tggatgcaga gaacagtggg ttcaaagacc 6660  
cagaggtgaa tggatggat gtgggtgtgt tgagtggctg gtgtggtaag gcccagccc 6720

aggagggtagc agagctaaat aatgagacac actcaggcca agtagggcct cctgggctgg 6780  
 gtaaggattt gggattttat tctgaagtgc ggagggaaagc ttggaggaa ttccccctcc 6840  
 tgacttttc ctgtcattca taatatacaa gaaaaagatc attagtcact tctatttatt 6900  
 cagataatga acaatctcta cttcttaagc tatataaacc ttgtcttagt gtgtgaaaca 6960  
 attctggagt gtctagttt caatctccag atgagggAAC tgaggctcaa aacaaagtga 7020  
 aagaaggcag aggaggatt tggaccagg cctgcccAGC ccacggcaca tgctctgtAG 7080  
 tttctggGA cagatgagtg taaatgcata tggcctcCTT aggacCCGG catccttcat 7140  
 caggagcttc agtggatgGA cttagggtgGA gtccAGTCCT tcctggotct ttagaaACAG 7200  
 gaacaaaAGA cccCGAAGAG tggagggAGG ttggGCATGT acaggtcAGG gggTCAGAA 7260  
 ctgttaggcAC caaatgtcAG ggccccCTGG ctatggGAAG ggctgtcAGT tttcacGCT 7320  
 agtctgttCT gctccgcCTA gctgttGCC agaaatCCCA aagagggtgc ctcccAGCT 7380  
 ctgttcACCT ttgAAAATCT gaattcatca ttgtgtgCA cttagAGAGAC ccagggtttG 7440  
 gtaaaaaACAA aattctttat tgggtgtttt caggtcacAG gaaaAGCCTC cactgtgtGG 7500  
 gacCCACATC cttagcACTG catgctggCT gctccAGGC atctgcACTG accctgtttC 7560  
 tccttcTTG ctgtGAAGCG gtcatgAGGT tgcAGTGCC gatgtgttG aggCCAGGTG 7620  
 tatctcgGCT ggTTGGCAG gcTTCTGCT taACATGGGA CCTCACTTAG tgagggAAAGA 7680  
 gagcAGTCTC ggCCCAAGGG gtgcAGTgtc tggggcAGAT gctttagggg ttatggctCT 7740  
 atcatcttCT caacCTCTA atGCCACTCA gggtcACCAC acataAAatCC ctgggtACTC 7800  
 tcccacttag ctctgtgACA ggTTGTGTC cttagatGCTT gctgACTCTG tatacatGTT 7860  
 caatgggtt aataaacGTC ttcaGCTAAAG catTTGGCC agcGATCAGC agagtGTTA 7920  
 ttgtctgtgg gcccggTTT aactCCACT ttgggtgtGA ctaatatATT ttgttctgt 7980  
 ggagtGCTT tcacttgATA agCCCCAGAC actttctgtG tcAGTCCTAA atGCCATATC 8040  
 cagatgtcCT ccagCTTCCA gatCGGCCAC ttctgtggCA ctTCCCTCTG cataAAACACT 8100  
 tcagCCCTCT CGCAGAGTGG agttCCAGGA aaccggTTT CACTTCAAGG ctctgttGTT 8160  
 ttctgtctggC ttTCTTCATT aaAgatATTT tattcactgg cccCTCAGAG atGAATATCA 8220  
 agtgcAGTGT ttggGAact ttgttttCA aagcCTGGAT AAAACCAAGA aaAtgtCAAG 8280  
 cagtaggtGA ttaAGTACCA agtggTCGCA caggCAATGC ttttgacATT gacAGCTGG 8340  
 ctctggtaa CCTTTAAAG acAGCAGCGA agataAAatGC cttagAGCAA cagAAactAT 8400  
 tggtgatGGA aagtGAATT tattcacCAA taaACTTGGT aagtGACATT ccctaAGTGA 8460  
 gcctgtGAAT tatggAAATC cacGTATCAG tggACATGAT gaAGCACCTG ctataCgcAG 8520  
 tgcACCCGGC cagattcATT cattcGACGG ttccTATCGA gcACCCCTCA tgtGCTGGAG 8580  
 atacggtgac tcaccAGATG gtcGCCCTCC ctTGTcatCA gtGCTGGCT tgaAGATGAC 8640  
 agatggAAAT gctggCCTAG gctGCCCTCT tGTaggtcAC gGCCGGTGT tactatGTGA 8700  
 ccagtGCTGT tctAAATACC gtatgtacGT gtattaACTC actGcatGCT cacAGAGATC 8760  
 cctacatGGA gtaggtGCAg ttattatCTG tacttacAGA gaAGAAAACA gaAGCACAGA 8820  
 agagAGCATT atttGtCCAA gtcACATAGC tggtgattGG aaccAGATAG cctggTTTA 8880  
 gagtctgtGT ctTCTCActGC cactACCAAC caatgtGAAA ggAAAATAAT caacttagGA 8940  
 cacAAAGTTG cacGCCCTCT gagAGAGGCG gggatAGAAT accatGGGCC ttcccAGCAG 9000  
 ggagAGATGG gcttagggGA gaaACAGAGT aaggTggGAa ccctaccTT ttcccATTCT 9060  
 gacAGGTGAC atccccGCTG gggggatGGA ggAAATGTT ggctactGAG gaggctACTC 9120  
 tggccAGAG tagacaAAAG aagcaACTGT ctGcAGCCA ggAGACTTGG atGCTAGTT 9180  
 tgattGatCC ggacaAGTCC agggccCTGC ccaggGCCTC tgTTTCCCA tctctAAAT 9240  
 aggtggCTTg gacaACATTC tgTTTGAACCT caggAGCCCA ggATTCAGC agagaAGGGA 9300  
 ggagctggCT ctctgtgcAC tctGAACAGG gtttccTGAc cagaAGAAGA tgTTTGGCTC 9360

tgagagatgt gggggcaggc attggacttc ccagaaggcc ttggcagctg taaaaggatg 9420  
tatgcgttcc actgtggtcc caccggaaat gctgacgttg gctgtgtctg cattccttc 9480  
ttttaggca ggatggcagt gtctgtgt ctggagctca cactataagg tactttgtat 9540  
gagagacaga gggagctaga gggagggaaag agggagtagg gaggggaagg aagccgggag 9600  
agagagaggt gattccggga gggactgact tccatctgct ttcaaattct gagggattaa 9660  
gtgctttcag atacttaaag tcagttagt tcaatggagt taaaaagctt ccaataataa 9720  
tttagcttc atccatctgc taaattgtct ccagagtcgg ctgcctatag tttctggca 9780  
tggcagagggc ccacatgacc gggcttgtti tccaggttaa gttcctaag aaattgtaaa 9840  
ccaagcaaga aaaacaaaaca gacaacaaca gaacacagat tgggtggat catgcagcag 9900  
gaaaagttagg acaccatttgc agctgaccaa gcatatgtgt tctccgtcga gctctgtcga 9960  
agctgtgtaa ggtgtgcttgc tgctggctc ctgccagatg ctgttggcat ggcttcatcc 10020  
accaggcttgc tggtggta acttgcagag tgaagaagtc tgggtttcac gtcacatcca 10080  
caaccctgaa catccaagca gttcatgtca acaactagag tataatttac ttctttactt 10140  
gtaaaactgt ggagcctgtg gattaaatttcc accaaaatga atcatattca agagaagtca 10200  
tttcctaaag gagaatttcag atgtggtccc cattcatggg tatatgtgtg ccagttatgt 10260  
tgggggttgg tggagccac tctaatttgc atttgcatttgc tgggttatat cacctctgag 10320  
taggcaggt acctacatga ggtaggcagg gaatgtatggc tttaacttag ttcatcaat 10380  
aaatgaatat cagttatcta ttccattttgt ccaggatggt ggtggcaga atgtctgaga 10440  
agcccatgtt gtgtatggca ggttgtgact ttaccagaga tggcattttc tggtaaact 10500  
tgggtgatag gatgtgttt taacagaaaag gaaaaaaagaa tctgaacttag ttcccttggt 10560  
aataataacc atttgggttg gggagctgtat actgggttagg aaaatgtgag gccccttga 10620  
catcatccat ttgctgctga gaaatcaaaa taaaacatc actcggtgtc agaatgttcc 10680  
agaaggcagt tgagctgcta atgtttgaa gtgttcagag gtatgtgttt tatgaaaaaaaa 10740  
agaggaaata caagacaaag gaaatgaaac gtttggcaac cattgagcat ttcttcaata 10800  
tggtattttct tggctctgc ggattttaaa aatccacttgc aaagccagta ttgttgactt 10860  
ttgctctgtt ctatttttgtt gggactgtat ttttttgc tttatattcc ttatctaa 10920  
ctaggcttaa tggtaataacc ctaagttgtat ggccttctac taaaattttaaa acaaaatata 10980  
ggccgggtgc ggtggctcac tcctgtatc ctagcactt gggaggtgtca ggcaggtgga 11040  
tcacctgagg tcaggagttc aagaccagcc tggccaacgt ggtgaaaccc cgctctact 11100  
aaaaataacaa aaattagccg ggtgtggtgg caggtgcctg taatcccagc tactcaggag 11160  
gctgaggcag gagaatcaact tgaacctatg aggcggaggt tgcaatgtgac caagatcag 11220  
ccatcgact ccagccctggg tgacaagagt gaaactctgt ctcaaaacaa acaaacaaac 11280  
aaaataaca acaacaacaa aaaaaactgt tcccacccac aatcccatca gatttattgt 11340  
gatactttca caaaaacagga agagttttt attgatttac aggtgcacag aaagtcttaa 11400  
catctcatct gagtttggttt ggtcttaatg aaccatcgat tagttatag aagaccaagc 11460  
attttctctc tagggcaggt gggcccttttgc agttgaaagt catagttctt caaaacaagg 11520  
cagtcgctga gaatgttgc ctggcctgccc tcaagatgtc ctgagatgcc ctaatgagga 11580  
aaaggcccta aaatatttca atcatgcaag tgtatagcct tcttataaaaa aaaaaaaacat 11640  
tacgaataaaa agtcctaccc tactcctggt gtcctctccc tttccagaag taatttcat 11700  
tctcacacccg tggctttctt cccatgtgtt ttttttgc tttacatca cgggcgtatg 11760  
cctatagaga acgtggagtg ctgtgtgtat tggagggca gggatgtgg gcaagccata 11820  
taaatgttat tataactctat atttctttctt gcaacttaca tttttcaagt gacaggatgt 11880  
cttaaggctc ttcttatgtc agtacatgca gtcaccgt gttcttttc atcactggtc 11940  
ggcttggctt ttagggatac caacccagta attctaacag aaatgtatggc tgggttctg 12000

tggagccaag tgaggggtgg agtgagggtgg caggacccaa cacaagttgg gagaaggtga 12060  
atgatgtaac ccaaggacaa ataaaagaagg tgcatagtcct gcctattttt ctccctagta 12120  
aagcagtatc tccctatata gattactgct gagtctgagg tagacagggta atgggtgttat 12180  
attttatctt aaatcttaat tccataaata gttatagttat ctgaaaaagg ttgttagtgac 12240  
tttctgtgc taagagggat ccttaatgt agtgggctca gacaacgaag gtttttgtt 12300  
ttgtttatctt ttaagaaaac aggggtctca cttgtcaccc aggctggagt acagtgggt 12360  
gatcatagct cactgttagcc tcgaactctg aactcctggg ctcaagtgtat cctcctgcct 12420  
cggcctcctg agtcattagg acagtaggctg tgcaccacca tgcctggcta tcaaacaatc 12480  
aagggtgatt tcttcctcat atcttatgtc cttgtcgagt tggcaagagc tactcattgt 12540  
ggttatttgtt gggcctgagc tgatgcagct gccccatct tgtgctaattc atagtgccag 12600  
aagcaaaaaa aaaaaaattt cacattgata aattaagcag tgatggctaa aagcctccta 12660  
cccaaagcaa cacattctgt ttctgctcat gttcatgag taaaaggctg taacttcaaa 12720  
ggggtagggta agtgaatcc taccaggtgt ctaggagaag aacctgaact gtttgatgaa 12780  
ctgaataactt ctaccactgt gttggtttc aaggaagggg tggaaagtc tttgaaaact 12840  
ctcctgtgac ccataaaagtt atatcctaga agccaatcct ttctgtgttc ataaaatcac 12900  
tggccttttc ctgtggccgc caaggttgca gagagcagag ctgtttggga actcacttca 12960  
agaagtggtc agagcttgag gagggagggc caggacagga gcagaggcag atggcatggc 13020  
actgggcccag gttccatatg acctgggtgc cagcaaagct ggcctgggtt ttgcttatgc 13080  
ttgtatttgtt taccaaccta tatagcaagt atcacagtag aaaaacttac agaatggcct 13140  
gactacacag agctcactgt tgaaaaacgc tgggttgtaa ctctaagata gcatctgcta 13200  
cattgctaaa gaatgttttta taacaggcgt tagatctgtt aggaatctta gctgctactg 13260  
ttgcaacacc aatttatgga aagctgtgtt atttattttg aaatataaac atgaaaaaaaa 13320  
aaaagagcga ataatgattc ccaacaattt ggtgcctgaa gaaagagtga aatcatgagg 13380  
ccagtgttga tgatggaaa tgactttctt gaggttctg ttctcaatct ggccttcatca 13440  
gttgggatgg agtcttagtct tgcatagtc tgctggagg aaggcgctca tagtcacaat 13500  
ggagcagggta aacctctgtc gggtgattct gcacagcatg aagctcctgc taaatggatc 13560  
atgtttgctta gtgttttta ggctgcagag aacagggca cactgaggct atgttcatgg 13620  
gggtttatata taaagataca caaaataagg gaagccgtgg ctggggccct cagctgtggg 13680  
cagccaaacc cacacccctt gtgggtttt gggactcagc atctctctaa atgtctcaaa 13740  
ttcaaaactcc ctgagagagg agctctaact gggctccct gtcacctgccc attacagagg 13800  
gctgcagggg agcagacacg tctgtatca tgctggctgg agcccaagga agcccttgag 13860  
agccacggca cccccctgtc tctctctgtc catttctgtc tccacacatt caccatactt 13920  
gtgattccctt gttctgtgtc tgcatagtc gcccagggtt aaactctgtg agggcagggta 13980  
gctacttgac ctctgtgtc ctcagttcc tcatagtgtaa attggcggtt acaatgaccc 14040  
ctggcaccta ggggttgc aaggatttagtata ataacagaaa ttatgttataatcattt 14100  
tactgagtgcc cagccctggc ctggcattt tgcataattt aactcacttta atcccttacag 14160  
caacattttgg aggtggaaact cttaccttgc ggcaatcactg gcacagaaag gctggctaac 14220  
ttgcttaacaa gtgatgggtcc ttataatcactg tgatcttata ataaagtccc atgaacagac 14280  
ataaaactgag agtgcggccctg ttccccacag cctaaaatca ccagcaaaca tggtccattt 14340  
agcagggaaact tccctctaaat tgcatagtc gtcagaattt gaacactgct gtctctagag 14400  
atccccagaca ccacagattt cacccttata tgcatagtc tctcaccatg tgcataaaagc 14460  
cttaacatcc atgctgtatgc cctagtacaa cacttgggtgt tagcttattt cagacttaggc 14520  
cctgctgggg cccttgcacg ttgcaggggc ggacatgagg aagtgcctag tggatctctg 14580  
tagaaggaat gaacagctgc aacctcatgg agttgtccca ccactctgtc cccctgcccc 14640



agggcagcag gcaggaactc tcatgtctca acacccttagc ttttagtgat tgccctggag 17340  
tggcaactgc cacttgagta gcccctggcc gcatgtggct cttgagact ggaaatgtgg 17400  
ttgatccaaa ctgagatgtg cgattaaaac acatgccagg tttccaagcc atagtatgaa 17460  
aaaaaaagaat gtaaactatc tcattaataa atttttgtt gatgggctgg gtgcagtggc 17520  
tcacacctgt aatcccagca ctttgggagg ctgaggtggg aggatcactt gaggccagga 17580  
gttcaagacc agcctggca atatgatgaa accctgtctc tactaaaaat aaaaaaaagta 17640  
gccaggcatg ggggtgtgca cctgtaatcc cagctactta ggaggcggag gcaggagaat 17700  
tgcttgaacc tgggaggcgg aggctgcagt gagccgagat tgccaccgc cactccagcc 17760  
tggcgacag agttagttag acttcatctc aaaaaataat aataaataaa tttgtatgg 17820  
atgacatact gaaatatttt gagtgttata gaattaaaat atatcattga aattaatttc 17880  
acctgtccat ttttactttt attagtgtgg ctattagaaa gttttaaattt actaggaaag 17940  
ctgtgtcata tttcaattca acagagctgc tctatggct ccttttccc tttgaagatc 18000  
cgccatcctg caatccctgc ttccctttca ccagagcagc ttccctgaat cttctcctgg 18060  
aggctctgca gacctttct ttagtttgg aagtcacatt gcaggagggg acttggcac 18120  
tggtttctgt gaggagcccg gagtaggtgaa ttgccccctgg gattccctta ccctggaaac 18180  
taaccctctc tgagggcaga aagctagaaa gaagagcggg tgagaggaaa tgctgtgca 18240  
accccccagct cccttcgggg ctccctcact gcccacaggc tctaccccca cttccctttg 18300  
cctcaggaga tggctttgg tggtagtgc accctcctcc gatctccctc gcttcatttt 18360  
tccacttggt gatccatctt ttgttctgcg gtgtgtcctg ttttctggct gcctccattta 18420  
gcttggtttt ttcccttggg tatccctgga gctgtcttac caggatctcc aacttcagtc 18480  
cccattggc tgcaccactg gcctggaaaa gctccaccca ggagagcaga cccagctccc 18540  
agatacctgg ccccagccca atctccgtcc tctctttgcc tggaagagag gaccagaccg 18600  
tcttcatcaa ctggacccac cctttaccaa gcaaagaaaag gaaaggattt ccccccaggg 18660  
ccagcagatc tctggctgtc tgggtttct ggtataaatg gcccattgaac ttcaatttg 18720  
tctccagatcc cccatggat ggtttggc tacccttaga ttctgtttac caaggcagag 18780  
ttcagtttct ctgctttccc ttccaacatc cataccttgc taagttcttgc ctgaatttg 18840  
ctaactctgc acacccgtt aaatcttcg ccagggctct ggacattata aagcagcctc 18900  
cttgcagat ggctgtcata taatatattt ctttatattt gttgttgc gtcaggagac 18960  
tttccctcgg tttctgcctt tgatggcaag aggtggagat tggcggcgcg attacagaga 19020  
acgtctggg agacaagttt ctgtttttat gggatcgca ggcttggaaag agacagaagc 19080  
agttagtaaa acggggccct cgtggtaggc gggcaaaggt cgggaaagga gggatgaagg 19140  
aagctgtgca acacccttc ccagctttct aaagaatggc gcatggcatt gcaaaaatgct 19200  
gaatcacaaa gtgagaagtg acttctttcc agtttctct cagccttgc atgatcttaa 19260  
agagaaaatgc tcaattctgt gctactgtgt cttaacatc tctcaaatgc ttccgagaga 19320  
aaacaggccc caaccctgga gccttccag gcagcaggac tagctggaaat acagtaacat 19380  
tgtggattt ctggtaattt aatttttgc ttactttcta tgtattgcaaa aggatatttt 19440  
ttttctgttt ctaatggta cattacattc cttaaaaattt attagatgtt tcaaaaactca 19500  
attgaaagca aaaggtaag caaataaaagg acaggtgtga ctcaattatg gcaagaacaa 19560  
caaaaaagtg actatgggg ggacgttgcg catttagaaa acactgtcct aaaagaagaa 19620  
ggtacagaga gtagtctgat acctgggagttt actagatattt aaaatttattc tcttgcctt 19680  
tttattcatt cattcaccat gtgccacaat aatttttttgc agtctttctt tgattttgc 19740  
gattccagaa ataaatttggaa aatttgcgat ttaaacaatg ttgtttaaa atattctaac 19800  
ttcaaaagaat gatgcagaa actaaaaaag gtatttattaa ctgctaattt aaatttaata 19860  
ttgtcagctg gtatgttttgc aatgtaccgc ttttctaaatg ctaaggatcc taaagtgggt 19920

catagaattg actgccatgg aaaatagccg ggtgtggtgg ctcacacctg taatccaagc 19980  
actttggag gccgagggtgg gcagatcaact tgaggtcagg agttcaagac cagcttggcc 20040  
aacgtggta aaccctgtct ctactaaaaa tacaaaaatt agctggccat ggtggcaccc 20100  
gcctgttagtt ctagctactc gggtggctga tgcaggagaa ttgcttgagc tcaggaggca 20160  
gatgttgcag tgagccgaga ttgtgccact gcactccagc ctgagccaca cagtggact 20220  
ctgtcaaaaaa aaaaaaaaaa agaaaaggct ggatttagtat ttaataactt ttattgaaac 20280  
aataactaat atttcatac ctttaaattt ttttggtag gatctcttc ccttctgtt 20340  
ctgataattt taaatttac tcttccttc tctatcattt ggattctaaa aagaaagcta 20400  
ttgtgtgggg tctggcattt gataggttaa aaaaaaaaaa catagaagca tgtcaaagag 20460  
caggagactc atgtgccact tggtgaaaaa aaaattgaga accactggac ctgaatgtta 20520  
acagatgtgg cttgtgaaac atattaatga tgtggatagt gttaaaagat ctatgagctt 20580  
tttttgaac tacaaaaaaa cctttttttt actctctctc tgaaatgcat gagtttcct 20640  
gcctagacaa acgacaaaagt ggccaattcc aggcccttcc acttccaaga tcattttaca 20700  
cacgcaagta ttcctggaca agaagaggct gaaggatctt ctgtggatt ttttaaaaaa 20760  
attattatTT tttgctgtta ttgttacaag gaaggttagt agtcaattt tggataact 20820  
cagatgaacc caaatgtttt ttaatgccc aataaaatag cctgggtccc tgccctacc 20880  
cagacaagaa actcagcact tgtaccagg tttcaagggt ttccagagag atacctctt 20940  
tggaaatcta atcccaggaa ctctgtggcg gctctccctc ttccctctgc ccctctgcc 21000  
tccctctgtc ccacttcatg ccacatggc tattgcttt ccctccttcc ccagggtgct 21060  
tgtgtataac agactttgct gaaggtcaag gacacgggg aagaggttat agcacaaccc 21120  
aaaatggca acagtgactg agacatcacc gtccgcaggt tcctgcctc tggctaccac 21180  
aggagactc atgctgctgt ctctctctc aggctattt gtgctgagac cgctccac 21240  
caaaccac aggtctttct ttctcagttc tggcctgtt ccctgctgg ggaatgcaga 21300  
aacctccaag ccctgttaac cttattatgt aaaataaaca ccttccatc tctatcccag 21360  
tataggatca aagcacactt ttgcttata gtaataataa agatgtttt attaaaaat 21420  
aaaaaagagt tggctatctc tggtcaccta ccctagagat gtaaccctca agtgc当地 21480  
attaaattat gatTTTTT ctttaatgca tctaagataa aagttttt agagacaggg 21540  
ccttgctctg tcacccaggc tggagtgcag tgggtgtatc 21580

<210> 11

<211> 4610

<212> DNA

<213> Homo sapiens

<220>

<221> exon:exon junction

<222> (2769)...(2770)

<223> exon 7:exon 8b

<221> exon:exon junction

<222> (2903)...(2904)

<223> exon 8b:exon 9

&lt;400&gt; 11

ccctcgcgct	actgcggag	cagcgtcctc	ccgggccacg	gcgttcccg	gccccggcgt	60
ccccggacca	tggcgctctc	cgggctcttc	tctagctctc	agcggctgcg	aagtctgtaa	120
acctggtggc	caagtgattt	taagtcagga	gactttcctt	cggttctgc	ctttgatggc	180
aagaggtgga	gattgtggcg	gcgattacag	aaaacatctg	ggaagacaag	ttgtgtttt	240
tatggaaatc	gcaggcttgg	aagagacaga	agcaattcca	gaaataaatt	gaaattgaa	300
gatttaaaca	atgttgtttt	aaaatattct	aacttcaaag	aatgatgcca	gaaacttaaa	360
aaggggctgc	gcagagtagc	aggggccc	gagggcgcgg	cctgaatcct	gattgccctt	420
ctgctgagag	gacacacgc	gctgaagatg	aatttggaa	aagttagccg	ttgtacttt	480
aactatggaa	gagcagggcc	acagtgagat	gaaaaataatc	ccatcagagt	ctcaccccca	540
cattcaatta	ctgaaaagca	atcgggact	tctggtaact	cacatccgca	atactcagtg	600
tctggtggac	aacttgctga	agaatgacta	cttctcgcc	gaagatgcgg	agattgtgt	660
tgccctgccc	accaggcctg	acaagggtccg	caaaattctg	gacctggta	agagcaaggg	720
cgaggagggt	tccgagttct	tcctctactt	gctccagcaa	ctcgcagatg	cctacgtgga	780
cctcaggcct	tggctgctgg	agatcggctt	ctcccttcc	ctgctca	agagcaaagt	840
cgtggtaaac	actgacccag	tgagcaggt	tacccagcag	ctgcgacacc	atctggccg	900
tgactccagg	ttcgtgtgt	gctatgccc	gaaggaggag	ctgctgtgg	aggagatcta	960
catggacacc	atcatggagc	tggttggctt	cagcaatgag	agcctggca	gcctgaacag	1020
cctggcctgc	ctcctggacc	acaccacgg	catcctcaat	gagcaggggt	agaccatctt	1080
catcctgggt	gatgctgggg	tggcaagtc	catgctgcta	cagcggctgc	agagcctctg	1140
ggccacgggc	cggctagacg	caggggtcaa	attcttctt	cacttcgct	gccgcatgtt	1200
cagctgcttc	aaggaaagt	acaggctgt	tctgcaggac	ctgctcttca	agcactactg	1260
ctacccagag	cgggaccccg	aggagggttt	tgccttc	ctgcgcttcc	cccacgtggc	1320
cctcttcacc	tttgcggcc	tggacgagct	gcactcggac	ttggacctga	gccgcgtgcc	1380
tgacagctcc	tgccctgggg	agcctgcca	ccccctggc	ttgctggca	acctgctcag	1440
tggaaagctg	ctcaaggggg	ctagcaagct	gctcacagcc	cgcacaggca	tcgaggccc	1500
gcgcgcagttc	ctgcggaaaga	aggtgcttct	ccggggcttc	tccccagcc	acctgcgcgc	1560
ctatgccagg	aggatgttcc	ccgagcgggc	cctgcaggac	cgcctgctga	gccagctgga	1620
ggccaaacccc	aacctctgca	gcctgtgctc	tgtgccc	ttctgctgga	tcatcttccg	1680
gtgcttc	cacttcgt	ctgccttga	aggctcacca	cagctcccc	actgcacgat	1740
gaccctgaca	gatgtcttcc	tcctggtcac	tgaggtccat	ctgaacagga	tgcagcccag	1800
cagcctgggt	cagcggaaaca	cacgcagccc	agtggagacc	ctccacccc	gcccggacac	1860
tctgtgtcg	ctggggcagg	tggcccaccc	gggcattggag	aagagcctct	ttgtcttcc	1920
ccaggaggag	gtcaggcct	ccgggctgca	ggagagagac	atgcagctgg	gcttcctgcg	1980
ggctttgccg	gagctggggcc	ccgggggtga	ccagcagtcc	tatgagttt	tccacctcac	2040
cctccaggcc	ttctttacag	ccttcttcc	ctgctggac	gacagggtgg	gcactcagga	2100
gctgctcagg	ttcttcagg	agtggatgcc	ccctgcgggg	gcagcgttca	cgtcctgcta	2160
tcctcccttc	ctccctgtcc	agtgcctgca	gggcagtgg	ccggcgcggg	aagacctt	2220
caagaacaag	gatca	ttcc	cctttcc	tgcgggctgt	tgtccaaagc	2280
caaacagaaa	ctcctgcggc	atctggtgcc	cgccggcagcc	ctgaggagaa	agcgcaaggc	2340
cctgtgggca	caccgtttt	ccagcctgcg	gggcaccc	aagagcctgc	ccgcgttca	2400
ggtcgaaagc	ttcaaccagg	tgcaggccat	gcccacgttca	atctggatgc	tgcgtgc	2460

ctacgagaca cagagccaga aggtggggca gctggcggcc aggggcatct gcgccaaacta	2520
cctcaagctg acctactgca acgcctgctc ggccgactgc agcgcctct cttcgctct	2580
gcatcaacctc cccaaagcggc tggccctaga cctagacaac aacaatctca acgactacgg	2640
cgtgcgggag ctgcagccct gcttcagccg ctcactgtt ctcagactca gcgtaaacca	2700
gatcaactgac ggtggggtaa aggtgctaag cgaagagctg accaaataca aaattgtgac	2760
ctatTTggga ctTggaaat cagtagacac catatcttc aaaaaacagg ggctattaaa	2820
atgacatcg gagccagaaa gtctcatggc tgtgcttct cttgaagttt atacaacaac	2880
cagatcacccg atgtcgagc cagactggg aaaaacaaaa taacaagtga aggaggaaag	2940
tatctcgccc tggctgtgaa gaacagcaa tcaatctctg aggtgggat gtggggcaat	3000
caagttgggg atgaaggagc aaaagccttc gcagaggccc tgcggAACCA cccagcttg	3060
accaccctga gtctgcgtc caacggcata tccacagaag gaggaaagag cttgcgagg	3120
gcccgtcagc agaacacgtc tctagaataa ctgtggctga cccaaaatga actcaacgt	3180
gaagtggcag agagttggc agaaatgtt aagtcaacc agacgttaaa gcatttatgg	3240
cttatccaga atcagatcac agctaagggg actgcccagc tggcagatgc gttacagagc	3300
aacactggca taacagagat ttgaacttgt ttggaaacttg tcataaaatc gatcagttt	3360
gtgaatttgc accaacaata tttaaaaaga aaacagaaca gaacaaaata tcaggatgc	3420
atgtgcatac ctaaatggaa acctgataaa accagaggag gccaaagtct atgaagatga	3480
gaagcggatt atctgtttct gagaggatgc ttccctgttc atggggtttt tgccctggag	3540
cctcagcagc aaatgccact ctggcagtc ttttgttca gtgtcttaaa gggcctgcg	3600
caggcgggac tatcaggagt ccactgcctc catgatgcaa gccagcttc tgcagaag	3660
gtctggtcgg caaactccct aagtacccgc tacaattctg cagaaaaaga atgtgtctt	3720
cgagctgtt tagttacagt aaatacactg tgaagagact ttattgccta ttataattat	3780
ttttatctga agctagagga ataaagctgt gagcaaacag aggaggccag ctcacactca	3840
ttccaacacc tgccataggg accaacggga gcgagtttgtt caccgcctt ttcatgtt	3900
agttgaggat gtggcacaaa gttgggtcca agttcttga ataaaacgtt ttgtatggat	3960
tagtattata cctgaaatat ttcttcctt ctcagactt tcccatgtat tgatactgg	4020
cccaacttcac agctggagac accggagat gtgcagtgtt ggatttgact ctcacactgt	4080
tttgtggaaa gttaatgtca aggaaaaggat gcaccacggg ctttaattt taatcctgga	4140
gtctcactgt ctgctggcaa agatagagaa tgccctcagc tcttagctgg tctaagaatg	4200
acgatgcctt caaaatgctg ctccactca gggctctcc tctgcttaggc tacccctc	4260
tagaaggctg agtaccatgg gctacagtgt ctggccttgg gaagaagtga ttctgtccct	4320
ccaaagaaat agggcatggc ttgccccgtt ggcctggca tccaaatggc tgctttgtc	4380
tcccttacct cgtgaagagg ggaagtctct tcctgcctcc caagcagctg aagggtgact	4440
aaacggggcgc caagactcg gggatcggtt gggactggg ccagcagagc atgttggaca	4500
ccccccacca tgggtggctt gtgggtggctg ctccatgagg gtgggggtga tactactaga	4560
tcacttgcgtcc tcttgccagc tcatttggta ataaaatact gaaaacactc	4610

&lt;210&gt; 12

&lt;211&gt; 260

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

<221> misc\_feature

<222> 38

<223> n = A,T,C or G

<221> CDS

<222> (7) ... (161)

<400> 12

ctcatt gtc tcc cgc cca cat tca att act gaa aag cna tcg gga act 48  
Val Ser Arg Pro His Ser Ile Thr Glu Lys Xaa Ser Gly Thr  
1 5 10

tct ggt cac tca cat ccg caa tac tca gtg tct ggt gga caa ctt gct 96  
Ser Gly His Ser His Pro Gln Tyr Ser Val Ser Gly Gly Gln Leu Ala  
15 20 25 30

gaa gaa tga cta ctt ctc ggc gga aga tgc gga gat tgt gtg tgc ctg 144  
Glu Glu \* Leu Leu Leu Gly Gly Arg Cys Gly Asp Cys Val Cys Leu  
35 40 45

ccc cac cca gcc tga ca ggtccccgg ggacaggac gggcatggc 191  
Pro His Pro Ala

tttgttgac accggagct agaagagct ctcctgctgg tctgagtcaa gagctggag 251  
ttacgtccg 260

<210> 13

<211> 000

<212> DNA

<213> Homo sapiens

<220>

<400> 13

000

<210> 14

<211> 248

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature  
<222> 8  
<223> n = A,T,C or G

<221> exon:exon junction  
<222> (54)...(55)  
<223> exon 1b:exon 2

<400> 14

cagggtantg gacagtgc aa ggaaagaaaag aagctgcggt gaaaagtgaca ctgagtgatt 60  
gtaagtcagg agactttcct tcggtttctg cctttgatgg caagagggtgg agattgtggc 120  
ggcgattaca gaaaacatct gggaaagacaa gttgctgttt ttatggaaat cgccaggcttg 180  
gaagagacag aagcaattcc agaaataaat tggaaaattga agatttaaac aatgttgttt 240  
taaaatat 248

<210> 15

<211> 34001  
<212> DNA  
<213> Homo sapiens

<220>

<221> unsure  
<222> 425  
<223> unknown

<221> unsure  
<222> 426  
<223> unknown

<221> unsure  
<222> 427  
<223> unknown

<221> unsure  
<222> 428  
<223> unknown

<221> unsure

<222> 429  
<223> unknown

<221> unsure  
<222> 430  
<223> unknown

<221> unsure  
<222> 431  
<223> unknown

<221> unsure  
<222> 432  
<223> unknown

<221> unsure  
<222> 433  
<223> unknown

<221> unsure  
<222> 434  
<223> unknown

<221> unsure  
<222> 435  
<223> unknown

<221> unsure  
<222> 436  
<223> unknown

<221> unsure  
<222> 437  
<223> unknown

<221> unsure  
<222> 438  
<223> unknown

<221> unsure  
<222> 439  
<223> unknown

<221> unsure

<222> 440  
<223> unknown

<221> unsure  
<222> 441  
<223> unknown

<221> unsure  
<222> 442  
<223> unknown

<221> unsure  
<222> 443  
<223> unknown

<221> unsure  
<222> 444  
<223> unknown

<221> unsure  
<222> 445  
<223> unknown

<221> unsure  
<222> 446  
<223> unknown

<221> unsure  
<222> 447  
<223> unknown

<221> unsure  
<222> 448  
<223> unknown

<221> unsure  
<222> 449  
<223> unknown

<221> unsure  
<222> 450  
<223> unknown

<221> unsure

<222> 451  
<223> unknown

<221> unsure  
<222> 452  
<223> unknown

<221> unsure  
<222> 453  
<223> unknown

<221> unsure  
<222> 454  
<223> unknown

<221> unsure  
<222> 455  
<223> unknown

<221> unsure  
<222> 456  
<223> unknown

<221> unsure  
<222> 457  
<223> unknown

<221> unsure  
<222> 458  
<223> unknown

<221> unsure  
<222> 459  
<223> unknown

<221> unsure  
<222> 460  
<223> unknown

<221> unsure  
<222> 461  
<223> unknown

<221> unsure

<222> 462

<223> unknown

<221> unsure

<222> 463

<223> unknown

<221> unsure

<222> 464

<223> unknown

<221> unsure

<222> 465

<223> unknown

<221> unsure

<222> 466

<223> unknown

<221> unsure

<222> 467

<223> unknown

<221> unsure

<222> 468

<223> unknown

<221> unsure

<222> 469

<223> unknown

<221> unsure

<222> 470

<223> unknown

<221> unsure

<222> 471

<223> unknown

<221> unsure

<222> 472

<223> unknown

<221> unsure

<222> 473  
<223> unknown

<221> unsure  
<222> 474  
<223> unknown

<221> unsure  
<222> 475  
<223> unknown

<221> unsure  
<222> 476  
<223> unknown

<221> unsure  
<222> 477  
<223> unknown

<221> unsure  
<222> 478  
<223> unknown

<221> unsure  
<222> 479  
<223> unknown

<221> unsure  
<222> 480  
<223> unknown

<221> unsure  
<222> 481  
<223> unknown

<221> unsure  
<222> 482  
<223> unknown

<221> unsure  
<222> 483  
<223> unknown

<221> unsure

<222> 484

<223> unknown

<221> unsure

<222> 485

<223> unknown

<221> unsure

<222> 486

<223> unknown

<221> unsure

<222> 487

<223> unknown

<221> unsure

<222> 488

<223> unknown

<221> unsure

<222> 489

<223> unknown

<221> unsure

<222> 490

<223> unknown

<221> unsure

<222> 491

<223> unknown

<221> unsure

<222> 492

<223> unknown

<221> unsure

<222> 493

<223> unknown

<221> unsure

<222> 494

<223> unknown

<221> unsure

<222> 495

<223> unknown

<221> unsure

<222> 496

<223> unknown

<221> unsure

<222> 497

<223> unknown

<221> unsure

<222> 498

<223> unknown

<221> unsure

<222> 499

<223> unknown

<221> unsure

<222> 500

<223> unknown

<221> unsure

<222> 501

<223> unknown

<221> unsure

<222> 502

<223> unknown

<221> unsure

<222> 503

<223> unknown

<221> unsure

<222> 504

<223> unknown

<221> unsure

<222> 505

<223> unknown

<221> unsure

<222> 506  
<223> unknown

<221> unsure  
<222> 507  
<223> unknown

<221> unsure  
<222> 508  
<223> unknown

<221> unsure  
<222> 509  
<223> unknown

<221> unsure  
<222> 510  
<223> unknown

<221> unsure  
<222> 511  
<223> unknown

<221> unsure  
<222> 512  
<223> unknown

<221> unsure  
<222> 513  
<223> unknown

<221> unsure  
<222> 514  
<223> unknown

<221> unsure  
<222> 515  
<223> unknown

<221> unsure  
<222> 516  
<223> unknown

<221> unsure

<222> 517  
<223> unknown

<221> unsure  
<222> 518  
<223> unknown

<221> unsure  
<222> 519  
<223> unknown

<221> unsure  
<222> 520  
<223> unknown

<221> unsure  
<222> 521  
<223> unknown

<221> unsure  
<222> 522  
<223> unknown

<221> unsure  
<222> 523  
<223> unknown

<221> unsure  
<222> 524  
<223> unknown

<221> intron:exon junction  
<222> (9546)...(9547)  
<223> intron 6:exon 7

<221> intron:exon junction  
<222> (10779)...(10780)  
<223> intron 7b:exon 8b

<221> exon  
<222> (10878)...(10961)  
<223> exon 8

<221> intron:exon junction

```
<222> (21846)...(21847)  
<223> intron 10:exon 11
```

```
<221> exon:inton junction  
<222> (21930)...(21931)  
<223> exon 11:inton 11
```

```
<221> intron  
<222> (21931)...(24748)  
<223> intron 11
```

<221> exon:inton junction  
<222> (29424)...(29425)  
<223> exon 14:inton 14

```
<221> intron  
<222> (29425)...(32217)  
<223> intron 14
```

```
<221> intron:exon junction  
<222> (32217) ... (32218)  
<223> intron 14:exon 15
```

<400> 15

gacttcatgt ctaaaacacc aaaagcaatg gcaacaaaag ccaaaattga caaatggat 60  
ctaattaaac taaagagctt ctcacagcaa aagaaaactac catcagagt aacaggcac 120  
ctacagaatg gggggaaaaaa atttgcaatc tactcatctg acaaagggt aatatccaga 180  
atctacaagg aactgaaaca aatttacagg aaaaaaacaa acaacccat caaaaagtgg 240  
gcgaaggata tgaacagaca cttctcaaaa gaagatattt atgcagccaa cagtcacatg 300  
aaaaagtgt catcaccact ggccatcaga gaaatgcaaa tcaaaaaccac aatgagatac 360  
catctcacac tagttagaat ggcaatcatt aaaaagttag gaaacaacta ggtgctggat 420  
gtagnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 480  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnngatcat cgttcactgc 540  
agccttgaac tcttgtctc atgtgatcct cctgccttag cctcccaat agctgggact 600  
acaggtgcgc caccatgcct ggctaatttt ttttattttt gtagagatgg gtgtctca 660  
atgttgcaca gggttgtctc aaactactgg ctttacttca agtatctac ccatttcagc 720  
ctccccaaagc gctgggatta cagtcatgag ccaacttgcc tggccagata aaggtctaa 780  
gcatggttcc ttccctgtct aggttagagaa acccccacaac cagtgggagg tgggtgagc 840  
tctttctgtc gcttttgctt tgctgatgat gtcattgatc tcttcagggg ctgcgcagag 900  
tagcaggggc cctggagggc gcggcctgaa tcctgattgc cttctgtctg agaggacaca 960  
cgccagctgaa gatgaatttg ggaaaaagtag ccgcttgcta cttaactat ggaagagcag 1020  
ggccacagtg agatggaaat aatcccatca gagtctcacc cccacattca attactgaaa 1080  
agcaatcggg aacttctggt cactcacatc cgcaatactc agtgtctggt ggacaacttg 1140  
ctgaagaatg actacttctc ggccgaagat gcggagattg tgggtgcctg cccacccac 1200

cctgacaagg tgccccgggg acagggacgg gcatggcatt gtgtggaccc cgggagctag 1260  
aagaggcctc tccctgctga tctgagtgaa gagcgtggga gtttagtcca gcgggcaggg 1320  
ctgcattttg gggtaactaat agcacacaaa tgcctgggtt agcaggttgc acagtcaggt 1380  
attttacttc tgtgtttgtg tctggagcaa accctgacat ctcagttctc attgctgtgt 1440  
gtattgggtc ccagacactt catttttaga tccccttaa attaggaggg aaaaagaaca 1500  
taagcataag agcatccccca gcagcgatgt tcattcagtg cctctgaagg ctggagggct 1560  
gcttgttgct gggtgagact cggaggggaa ccgactcagg gtcaggaatg atgacatccc 1620  
acggtggtc cacagtgaag aatcttcccc gctccactgt gggacgcctt aacagccctt 1680  
acttccactt acgctttgcg ttatctcctg aaaaataaaaa tggagaccac aaattccctc 1740  
ttggtttagag gaatgacaca actcatttat gacatgaccc cgctggact cagaagagac 1800  
caggacggtt tctgggggaa gcagtagcac actcgtgtgc tttgttctct tctcttgatt 1860  
tgttttccca catttttaac aaaaaaaaaa gccgtttta atatatggcc tatcgccctc 1920  
ctactgtgtg gcccaggtgc ctacctcatt atgcccagg ggtggttctc acctctccac 1980  
tctcattcct gcacagcagt tgtgtcaggt taagagggac aaggagaagg ctggcaccg 2040  
tggctcacgc ctgtaatccc agcactttgg gaggccgagg cagggcagatc acctaaggtc 2100  
aggagtttga gaccagcctg gccaacatgg ggaaaacccg tctctaataa aaacacaaaaa 2160  
attagtcggg catggtggtg ggtgcctgta atccagcca cttgggagggc tgaggaaaga 2220  
gaattccttga aacctgggag gtggaggtt cagtgagcca agattgtgcc attgcactcc 2280  
agccctccag cctgggtgac agagcaagac tctgtctcaa aaaagaaaaa aaaaaaaaaag 2340  
aggttagagaa gtccatggct atttgcgtgt ccttttattt ttttaggctca tggaaagcctc 2400  
ctggtttctt agagctgagt ggttttattt cttgctcagg aggtcatttc acagattttc 2460  
gggctccaat atgttgactg tcacagcagc tggggggatg gcatagctac cggctgtact 2520  
aagaactcag agccctgccc tgagcctgcc tgagggctt tatggtagga ggatgcccct 2580  
catgccagcc cgtgccctca tgcttgtc acctccaggt ccgcaaaatt ctggacctgg 2640  
tacagagcaa gggcaggag gtgtccaggt tcttcctcta cttgctccag caactcgcag 2700  
atgcctacgt ggacctcagg cttggctgc tggagatcgg cttctccct tccctgctca 2760  
ctcagagcaa agtcgtggtc aacactgacc caggtaggag tcagccccag caagaccgca 2820  
ggcaccagtg caagcagggc cctggggggt ttggtaatgg ctggccagc cctgagtgcc 2880  
acctcaggaa gcaggcccag gtgctatttt gattttagaa aggaacagct gaatcctgtc 2940  
tcccaagtgc agccagggtg gctgcgattt aactgcccac acctcgatgg tctggtttat 3000  
agagggccct ttggaaagtat gggaatggcc tgcgttctga ccccttgctt tcttcctatt 3060  
ctgacatatg tagacatttt aatggttgca caaattcaag gttgtatttt tttttctttt 3120  
aaaaaaaaatct tttagctggac atggtagcac acacctgttag ttccagctac tcaggaggct 3180  
gaggcaagag gactgcttga gccccagagt ctaaggctgc agcgagctat gattgtgcc 3240  
ctacactcca gcctgggtga cagagtgaga ccctgtctt aaaaaaggaa agaaaaaaaaat 3300  
taaaaaaggct tgccagggtt gattcttaggc aaagtattct gtcaccgttg agtgcagtc 3360  
cttatttcca aactaatggaa agacccatc agttaactga tttagttcaat aagtattttt 3420  
tgctgtatcc accacatgcc aagaccctac actgtgctgg atgtcaggga gacagtggc 3480  
agcagacaca gacagggttc ctgccctcag ggagcttcaa gtcagctgga agagaccacc 3540  
agtcagcaat ctcaaaaaatg tgtcaggaca gcggcagtc aaggcatgtg agaacatatac 3600  
attagggcca ggatctgctc tggggcagga gtcttcttc cctgctttt aactctccac 3660  
tttgagacag ctgttggtaa cataccagca ccaaggacat aagtccctgcc ttttaaagaa 3720  
tccaatatgt tggggaaac agaagcacaa gacagggtgtg tgcttagggg aaacaaggcc 3780  
agccggcaga gtgtcagtgc taggctccag cttccacagc ccctgcaggt gcctgccagc 3840

cactgctagc ttctgactct gtctgctcct tcctgtctcc ccttgtttcc ttccccatg 3900  
aaaaaaaaaaag aaagtattcc catgaggaat cattctttcg aaagacttct ctgttgggtc 3960  
cgtagccag ctactttact agctttaca gtgtaattca ctctacaagc agtctcacac 4020  
aaaagactac atattgtatg attctgttta tatgaaatgt ccagaaaagg taaatctata 4080  
gacaaagcaa atcagtagtt gcctacggcc cagggattgg ctacaaataag gctccagaaa 4140  
actctggaa gatggtagag atggtctaga cctggactgt ggtgagggtt gcacaactt 4200  
gtaaacttac taaaaattac tgacaaatat ataacactcc ctaacactt gggaggccga 4260  
ggtgggcaga tcgcttgaac ccaggaattt gagaccagcc tgggcaacat ggcgagaccc 4320  
cgtctctaca aaaaaacaca aaaattagtt gggcttggtg gcatatgcct gtgtcccagc 4380  
tacttggag gctgaggtgg gaggattgtc tgagcctggg agtttgagac tgcattgattt 4440  
ggtcactgca ccctagccctg agtgacagag caggacccta tctctaacaa caaaaaagca 4500  
gtgttggtg aggagggcca gcgtggccat ctggccctggc cctcgagtgc gaggggcttc 4560  
agtgtttagc tgcagttcag tcatgacact gtgcggagga ataagggtgg cctgtctcag 4620  
acactgatcc cagctgaagt ttgtcacctt ctctctggca aatctgaggt caagcagaga 4680  
gatcaaagcc tggggccctc agggtcagga atgctggctc tgtgacgcct cccaggtcct 4740  
gcatctgagg agtggctgcg ctggccctcag ggcccagggtt gtgaattttt tttatgcact 4800  
cgcctctcct ctgttggagacc tccctgtttt atgctgttcc tgcctctc ctcaccctgc 4860  
tgctgtgccc tgccacccccc tccctccagt gagcaggtat acccagcagc tgacacacca 4920  
tctggccgt gactccaagt tcgtgctgtc ctatgcccag aaggaggagc tgctgctgga 4980  
ggagatctac atggacacca tcatggagct ggttggcttc agcaatgaga gcctggcag 5040  
cctgaacacgc ctggcctgcc tcctggacca caccacccgc atcctaattt agcagggtga 5100  
gaccatcttcc atcctgggtt atgctgggtt gggcaagtcc atgctgctac agcggctgca 5160  
gagcctctgg gccacggggcc ggctagacgc aggggtcaaa ttcttcttcc actttcgctg 5220  
ccgcatttcc agctgcttca aggaaagtga caggctgtgt ctgcaggacc tgcttccaa 5280  
gcactactgc tacccagagc gggaccccgaa ggaggtgtt gccttccctgc tgcttccccc 5340  
ccacgtggcc ctcttcaccc tcgatggcct ggacgagctg cactcggact tggacactgag 5400  
ccgcgtgccc gacagctcct gcccctggga gcctgcccac cccctggctc tgctggccaa 5460  
cctgctcagt gggaaagctgc tcaagggggc tagcaagctg ctcacagccc gcacaggcat 5520  
cgaggtcccg cgccagttcc tgccgaagaa ggtgttcc cggggcttcc cccccagcca 5580  
cctgcgcgcc tatgccagga ggtgttccc cgagcgggccc ctgcaggacc gcctgctgag 5640  
ccagctggag gccaacccca acctctgcagc cctgtgtct gtgccttcc tctgctggat 5700  
catcttccgg tgcttccagc acttccgtgc tgcccttgc ggctcaccac agctgcccga 5760  
ctgcacgtatg accctgacag atgttccctt cctggctact gaggtccatc tgaacaggat 5820  
gcagcccaacgc agcctgggtgc agcggaaacac acgcagccca gtggagaccc tccacgcccgg 5880  
ccgggacact ctgtgctcgc tggggcaggt ggcccacccgg ggcattggaga agagccttcc 5940  
tgttccacc caggaggagg tgcaaggctcc gggctgcagg agagagacat gcagctggc 6000  
ttcctgcggg ctttgcggag ctggcccccgg ggggtgacca gcagtcctat gagttttcc 6060  
acctcaccct ccaggccctt tttacagccct tcttcctcgt gctggacgac agggtggca 6120  
ctcaggagct gctcagggttc ttccaggagt ggtgtccccc tgccggggca gcgaccacgt 6180  
cctgctatcc tcccttcctc ccgttccagt gcctgcaggg cagtggccgg ggcggggaaag 6240  
acctcttcaa gaacaaggat cacttccagt tcaccaacctt cttccgtgc gggctgtgt 6300  
ccaaagccaa acagaaaactc ctgcggcatc tggtgccccgc ggcagccctg aggagaaaagc 6360  
gcaaggccct gtgggcacac ctgttttcca gcctgcgggg ctacctgaag agcctgcccc 6420  
gcgttcaggt cgaaagcttc aaccaggtgc aggccatgcc cacgttcatc tggatgctgc 6480

gctgcacatcta cgagacacacag agccagaagg tggggcagct ggccggccagg ggcacatctcg 6540  
ccaaacctt caagctgacc tactgcaacg cctgctcgcc cgactgcagc gcccctctcc 6600  
tcgtccctgca tcacttcccc aaggcggtgg cccttagacact agacaacaac aatctcaacg 6660  
actacggcgt gcggggagctg cagccctgct tcagccgcct cactgttctc aggtgaggct 6720  
gccaggcaag gggagcaaca ggtgggcccgg gcggggccagg ctcggagggc atcgggaatg 6780  
gcacatcatgga ccaggatccc ccaggactca tgaccatggc ccttggaatg tccagacatt 6840  
ttctttctta gcagggcaga ggtcaagggtg caaagctcg aggcaagggtgg acctggatca 6900  
gccacagctg ggtgcccctt aacaaaagtgc ttaactctca gagcctccac gcccctcatct 6960  
ggaaaaaaagaa gatgctcata atcctatcaa ttatggccac agggaccaat gtttagtttag 7020  
aatgggtgaa gtgcattaca aatattacct aatggaatgc tctttacaac cctgtaactt 7080  
aggtactgtt attgtctcta ttttggcaga taaggaagta gaggcacaga gaagttata 7140  
gcttgcttta ggtcacacacag ctcagacata gcagtgcacag aatgcataaa gaaccttcct 7200  
tttaagatta atgttaaggct ccgagatagc cctcaaaaag tttctggaat atgggagctt 7260  
ttattactgc agagaaaagca gaccttgc cagttggcac tggtgacttt ctgtgatcaa 7320  
cgcttagcagc ccttcacact gctagagacc tcagttaaaa tgctgactcg tgggtgttt 7380  
cctgttccat agtttacggg aaacagagcc cagtcgtt tcttcttata gcatttccta 7440  
tgtaaaataaa accttgtaaa tctctacagg gggttaaatt tgccattact tgactcatgc 7500  
atttctaaaa agcagtagggg atttggaaact gactcccagt gcctgtcaca ccagtgtcag 7560  
agtgtaaata attgcattggg gacatgggt gcagggggtc gaaggctgcc ctagcctggg 7620  
aattggaaaaa cctggagtct gttctctgtt ctctcagcca gtgactctcc ctctgttagcc 7680  
ccaggcagtc tcacactcag tgccaccctc tgtccatct tttttttctt ccccaaatg 7740  
gagtcggcct ctgttgccca ggctggagtg cagtcgtt atctcagctc actgcaacct 7800  
ccgcctcctg ggttcaagcg attctctgc cccagcctcc tgagtagctg ggattacagg 7860  
cacacgcccac catgtccggc taagttttt gtattttttag taggacgggg tttcccatg 7920  
ttggccaggg tggctttgaa atcctgaccc caggtgatcc gcccgcctcg gccttccaaa 7980  
atgttgggt tacaggcatg agccgcccga cccgaccctt ctgtccatct tttcaatggg 8040  
aaactccaca ccagtgtggt ggccctgccc ttccctgtt ccccgaggta agctttccctt 8100  
cacaccagtg caagaaaaaa cagcttgttag gaaagcagag gatatggta accacggaa 8160  
gcacactcag ttctctggct gcatcagttt ggattagtt tagctgagag cgaaaacccc 8220  
aaatgttggt gagttacaag cttatcttc tcatgtaaaa gtcttagaggt aggttagttca 8280  
ggactggtat ggagtctcca tgaccctccg gagcccaggc tctcttctgc cttcctgttc 8340  
tgccatcctc actacccggc tttcccatct tggcccaaga gggctgctca aactccagcc 8400  
atctagtgc cactcttagct atcagaaga aggaagggca aagattgaga gcatgcctca 8460  
atcttttaag aacacttctt ggcttattact aattatattt ctgcttagat ttcagaactt 8520  
aatggtatgg gcagaattta atgagatggg cccagctaaa agatggggta atctattgct 8580  
aagaaaagtat agatattggg aatgtctagc agcctgtgt gtcttggctt ggccatgcca 8640  
tgtacataca cactatttcc cagcaccaag ctggggactc tgagggaaag ggtccagagt 8700  
gtctgacttgc atcattttga tggccctaa aatcaagct tttattttt cagccttta 8760  
cttggatccatca aggtcagctt gtgggtctaa ttggcccaa ggcttggctt tctaagttaa 8820  
gttttattgg aacgcagcca tacccattt tttacttact ggctgctca cactacacag 8880  
ttgagtagct gtgacagaga ccacatggcc cacagagcct aaaatatttgc tgcgtctgaca 8940  
cttacagaa tgacatgagc agtctccctt gacagtggga ctcacagcct tttccagtga 9000  
caaattcaggg ttagccatg tggccatg tggggggaaag ctggtggcat tttgggtata 9060  
acagttcttg tgagacctgt ccagcatttt gcaggacacc taacatcatt ggccctgcct 9120

gcaagatgac agggcactcc ctcctccagt cacaaccact aaaaggcagcc cctgacattt 9180  
ccaaaccat gcccctccacc atacgagaac caggtacagg gtctggctga cacataggtc 9240  
acacgcaaag ggtggatgtc agaggtggct ggcctcacac gtcctccctg tgtccttcac 9300  
ggtcgtgtga ggagccaggg gctgtgctgc agcctcgctc atgggctggt gcaggatggg 9360  
tctggcggcc ccacgttgc caggcttgt aaggggctat ttggctgatt gctgtggcca 9420  
ttctccaggg gcgtctatac ctgagaaaaac tccagggcct gaaggcttct ggatctttgt 9480  
aagattaatg gtccttcata atgagtgcct gccctgactc gtaattttt tgctgtttta 9540  
tttcagactc agcgtaaacc agatcactga cggtggggta aagggtctaa gcgaagagct 9600  
gaccaaatac aaaattgtga cctatttgg gtatgtctt ctccagaaca ctgggccaac 9660  
tacctagtaa taatacagag ctgcaggaa ttcacattcc cataggtccc tggatgatcg 9720  
gcacggatgg cccagggctg ggaagagcgc tggccagga gttgagagtc ctgggttctc 9780  
tttgggctc ggccagtcat gaagtctgtc tgagcctcag ctcctcacc tgtaaaaactg 9840  
ggatcccagt ataggcaagt aggcttacaa ctggttattt ggggatgcaa cgagaatata 9900  
aggggatata tttaataaaat gctagaatcc tgttacata ttagtctgga ctatttggg 9960  
tccataatcc ctcatccaga gccttgggg caagacccga atggggatcc tgagtgcatt 10020  
ctatggcatg acgtggccgc aggggtctaa ggcagtgcctt cattttcaaa cactttcata 10080  
tttctccgc agaatgtatg aaacagtcaa accaagtgtg gtaagaagaactataagttag 10140  
ctccacatca gttgccaaaaa gaattgtgag aaactttggg cattcagagc ctttgagggtt 10200  
ttggagtcg agagaaggga ttgcgggcca gccccacaca actgggtggct ctgcaagctg 10260  
gagcagttgt tcagtttctt ggggcctcag tggccttcga tgtaatgag gacatggacg 10320  
caaacgaccc cgggcccacac tcggctccag ggctctgtgt ggctgtggaa ccctggaaagc 10380  
ctgagcttag ctgccttca acttccatct gctgtactat tgaattggca ttgagcggtg 10440  
agatggctga aaggtagaca tcgagaagtt ttaatattca gaatctttc ttctcaagac 10500  
gctgaatgta atcttagttt taaataccca tcacctgcca gtcaccgagc actcatgcac 10560  
cagggctttt cgttatgtcc taagatcctc ataaccaccc tgcaaggggaa ctatcatcat 10620  
tacctctgttta tacagatgg agaaaactgag gcacagagag gtaacgtgac ttgtctcagg 10680  
ccataaaagct gggaaaagta gtggagctgg ttttgaacct gagctgtgag acctcagagc 10740  
cctaaaactct ggtgcctgtg tgttccctt tcaacccaga ctttggaaat cagtagacac 10800  
catatgcttc aaaaaacagg ggctattaaa atgacatcag gagccagaaa gtctcatggc 10860  
tgtgctttctt cttaagttt atacaacaac cagatcaccg atgtcgagc caggtacgtc 10920  
acaaaaatcc tggatgaatg caaaggcctc acgcatctt agtaagtggg gttaggcacca 10980  
ggttccttag tatattctct tgatcaccctt cttctgtgt tcaaagatta aatgtcacag 11040  
taaagagctt tcacccctaa gccttccact tgtcccaggc ccatgttggt caagtaaaga 11100  
tacctctgtt tgatctgtga ggcttggatt ctggaaaggc cttccgttat tggtaggggg 11160  
aaagggttggc attttgattt cattaactac taggcccgaag aaaggactaa ctctcaccct 11220  
ttctgggtgtt cttttgcctt caagggagtt tcctgtcggg ttgcaaggaa gagcttgggc 11280  
ccttgccttgc ctgttaggtgt gccctgcgca gggggtgaca gtgcgccagg cttggagcct 11340  
ctggccttcgc cctgacagtgc gccacatacc ttgacccttgc gcagtcaaag tggacactcc 11400  
caggtctccc gagggaaagtc agtgatgtcgt ctgaggtcaa ttagaggacc ccagggaggg 11460  
ctcaggtccc tgagcttctg cagagactgt ggaccatctc ctggagagga accctgactg 11520  
actgtcctca gggcttcagt tccctccctg acaggaggcc cagggcatgg ctcttgcgtt 11580  
tcccagaaga aagtgtacgg ttcccaagat ggggctggaa ggggctctgt gctggggagg 11640  
agggtgaccc acattggagc ccctgcatacg ctggaggctg actgtgtgtg actctctctg 11700  
cagactggaa aaaaacaaaaa taacaagtga aggagggaa tatctgcctt tggctgtgaa 11760

gaacagcaaa tcaatctctg aggttgggtg agtagaaggg gatggatgt a tgtggtacaa 11820  
cctgctgtgt gtgtgggggg cgggccttcg ttttctttt atacatca gatccagaag 11880  
gaccactggg gctcgctgtc ggggagagat agtggagagc ttccacatg ctgcgaaact 11940  
gaaaccgtgc ccattaagca ataactcccc ggtccccctc ccccctgcct cttgcagcca 12000  
ccctgctact tactctctt atgggtttga ctactctacc tcatgtta ggaatcatac 12060  
agtatttgcc ttttggggat ggctgattt actagcatca tgcctcaag attcgccac 12120  
atggaagcat gggacaggat ttccctttt tttttttt tttttttt tgacagagtc 12180  
tcgctctgtt gccaggctg gagtgcagtg gcatgatctc ggctcactgc aacctctgcc 12240  
ttctgggtt aagcgattct ctcgcctcag ccacacgagt agctgggatt ataggcaccc 12300  
gccaccaatc ccagctaatt tttgtatattt tagtagaggc ggggtttcac catgtggcc 12360  
aggctggctc caaactccctg acctcaaatac atccacccac ctcggctc tcaaaatgtca 12420  
ggattatagg cgtgagccac cgtgccccgc caggatttcc ttcttttttta aggctgagta 12480  
atactccatt gcatggctat gccacatttt gtttactcat tcatccaaga acagacactg 12540  
gcttgcttct atgccttggc tgggtgttaaat aatgctgtc tgcacatggg catacaaatac 12600  
tctcttcaag gactgccttc aattctttt tttttttt ttttttttta gattctttt 12660  
tttttttta tactctaagt tttagggtaat atgtgcacat tgcagttttt agttacatata 12720  
gtatacatgt gccatgctgg tgcgctgcac ccactaatgt gtcatactac attaggtata 12780  
tctcccaatg ctatccctcc cccctccccca gacccacca cagtcggccag agtgcata 12840  
tcccccttcgt gatctcatttgc ttcaattcccc acctatgagtt gagaatatgc 12900  
ggtgttttgtt ttttttgttct tgcgatagtt tactgagaat gatggtttcc aatttcatcc 12960  
atgtccctac aaaggatatac aactcatcat tttttatggc tgcataatgtat tccatgggt 13020  
atatgtgcca cattttctta atccagtc tcaattgtgg acatgggtt tggttccaag 13080  
tctttgctat tgcataatgtt gccaataaa acatacgtt gcatgtgtct ttatagcagc 13140  
atgatttata ctcatttggg tatataccca gtaatgggat ggctgggtca aatggtattt 13200  
ctagttcttag atccctgagg aatcgccaca ctgacttcca caatgggttta actagtttac 13260  
agtccccacca acagtgtaaa agtggcccta tttctccgca tccctccag cacctgctgt 13320  
ttcctgactt tttatgtt gccattctaa ctgggtgtt gatgatatctc atagtggttt 13380  
tgatggcat ttctctgtat gccagtgatg atgacattt cttcatgtt tttttggctg 13440  
cataaatgtc ttcttttgag aagtgtctgt tcatgtc ttttgc ttttgc ttttgc 13500  
tgtttgtttt tttttgtttaa atttgtttaa gttcattgtt gattctggat attagccctt 13560  
tgtcagatgtt gtaggttgcg aaaatttctt cccatgtt gatggccctg ttcaactgt 13620  
tggtagtttcc ttttgctgtt cagaagctt ttagtttaat tagatccat ttgtcaattt 13680  
tgtctttgtt tgccattgtt tttttttt gggatgtt gttttttt gttttttt 13740  
cctgaatggt aatgcctagg ttttcttca gggatgtt gttttttt gttttttt 13800  
aatcttttaat ccatttttca ttgatttt gataaggtt aaggaaggaa tccagtttca 13860  
gctttctaca tatggcttgc cagttttcc agcaccattt attaaatagg gaatcccttc 13920  
cccattgtt gttttctca ggtttgttca agatcagata gttgtt gatggccat 13980  
tttctgaggg ctctgttctg ttccattgtt ctatatctt gttttggat cagttttttt 14040  
ctgtttttt tactgttgc ttgttgcata gtttgc gtttgc agtgcctcc 14100  
ctttttttt ttggctttagg attgacttgg cgatgcgggc ttttttttgg ttccatatgt 14160  
actttaaatgtt agtttttcc aattctgtt gataaggtt tggtagttt gttttttt 14220  
cattgaatct gtaaatttacc ttggccatgtt tggccat ttttatttcc ttgagcagtg 14280  
cccatgagca tggaaatgttcc ttccattttt gttgttgc ttttatttcc ttgagcagtg 14340  
gtttgttgc ttccttgc aagtttttcc catccattgtt aagtttttcc cttttttt 14400

ttattctctt tgaagcaatt gtgaatggga gttcacccat gatttggcgc tctgtttgac 14460  
tgttgggt gtataagaat gcttgtgatt tttgtacatt gatTTgttat cctgagactt 14520  
tgctgaagtt gcttatcagc ttaaggagat tttgggctga gacgatgggg ttttcttagat 14580  
aaacaatcat gtcgtctgca aacagggaca atttgactt ctttttccct aattgaatac 14640  
cctttatTC ctttcctgc ctgattgcc tggccagaac ttccaacact atgtgaata 14700  
ggagcggtga gagagggcat ccctgtctt tgccagttt caaaggaaat gcttccagtt 14760  
tttgcCcatt cagtatgata ttggctgtgg gtttgcata gatagctttt attatTTga 14820  
aatacgtccc atcaataacct aatttattga gagtttttag catgaagggt tggtaattt 14880  
tgtcaaaggc ttttctgca tctattgaga taatcatgtg gttttgtct ttggctctgt 14940  
ttatatgctg gattacattt attgatttgc gtatattgaa ccagccttgc atccaggaa 15000  
tgaagccac ttgatcatgg tggataagct ttttgcatttgc ctgctggatt cggttgcac 15060  
gtatTTattt gaggattttt gcatcaatgt tcatacaagga tattggctta aaattcttt 15120  
ttttgggtgt gtctctgccc ggcttggta tcagaatgtat gctggccctca taaaatgagt 15180  
tagggaggat tcccttttt tctattgatt ggaatagttt cagaaggaaat ggtaccagtt 15240  
cctccttgc tctctggtag aattcggctg tgaatccatc tggccttgg ctcttttgg 15300  
ttggtaaact attgattattt gccacaattt cagagcctgt tattggctta ttcagagatt 15360  
caacttcttc ctggtttagt cttgggagag tttatgttgc gaggaatgtt tccatttctt 15420  
ctagattttc tagtttattt gcgttagaggt gtttgcattt ttctctgtat gtagttgtt 15480  
tttctgtggg atcgggtggtg atatccccctt tatcattttt tattgtgtct atttgattct 15540  
tctctctttt tttctttattt agtcttgcta gcggctatc aattttgttgc atcccttcga 15600  
aaaaccagct cctggattca ttgatTTTTT gaagggtttt ttgtgtctt atttccctca 15660  
gttctgctt gatttttagt atttcttgcc ttctgctatc tttgaatgt gtttgcctt 15720  
gctttcttag ttcttttaat tttgtatgttgc ggggttcaat ttggatctt tcctgcttcc 15780  
tcttgcatttgc atttagtgcataaaatttcc ctctacacac tgcttgcattt ggcgtccaga 15840  
gattctggta tttgtgttgc ttgttctgtt tggttcaaa gaacatctt atttctgcct 15900  
tcatttcgtt atgtacccag tagtcattca ggagcagggtt gttcagtttgc catgtatgtt 15960  
agcggctttg agtgcatttgc ttaatcctga gttctgtttt gattgcactg tggctgttgc 16020  
gatagttgt tataatttct gttcttttac atttgcgttgc gagagcttta cttccaaacta 16080  
tgtggtaat tttggatag gtgtgggtgtt gttgttgcattt aatgtatatt tctgttgatt 16140  
tgggggtggag agttctgttag atgtcttattt ggtctgttgc ttgttgcattt gatgttcaatt 16200  
cctgggtatc cttgttgcattt ttctgtctca ttgttgcatttgc taatgttgcattt gatgggggtgt 16260  
taaagtctcc cattattaaat ttgtgggagttt ctaagtcttgc ttgttaggtca ctgaggactt 16320  
gctttatgaa tctgggtgc tctgttgcattt gtcataaat atttaggata gttagcttgc 16380  
cttgcatttgc ttgttgcattt accattatgtt aatggccttc tttgttgcattt ttgttgcattt 16440  
ttgggtttaaa ttgttgcatttgc ttgttgcatttgc ttgttgcattt ttgttgcattt 16500  
cattggcttgc ttgttgcatttgc ttgttgcatttgc ttgttgcatttgc ttgttgcattt 16560  
tgagatgggtt ttcctgttgc ttgttgcatttgc ttgttgcatttgc ttgttgcatttgc 16620  
gtctgtgtct tttaatttgc ttgttgcatttgc ttgttgcatttgc ttgttgcatttgc 16680  
gtgaatttgc ttgttgcatttgc ttgttgcatttgc ttgttgcatttgc ttgttgcatttgc 16740  
ttcttccttag ttgttgcatttgc ttgttgcatttgc ttgttgcatttgc ttgttgcatttgc 16800  
ttgttgcatttgc ttgttgcatttgc ttgttgcatttgc ttgttgcatttgc ttgttgcatttgc 16860  
caaaatctctt cttgttgc ttgttgcatttgc ttgttgcatttgc ttgttgcatttgc ttgttgcatttgc 16920  
ttgttgcatttgc ttgttgcatttgc ttgttgcatttgc ttgttgcatttgc ttgttgcatttgc ttgttgcatttgc 16980  
ttggccccca ttgttgcatttgc ttgttgcatttgc ttgttgcatttgc ttgttgcatttgc ttgttgcatttgc ttgttgcatttgc 17040

tgggctttcc tttgagggtta acccgaaacctt tctctctggc tgcccttaac atttttcct 17100  
tcatttcaac tttggtgaat ctgacaatta tgtgtcttgg agttgtctt ctcgaggagt 17160  
atcttgcgg cggtctctgt atttctgaa tctgaacgtt ggcctgcctt gctagattgg 17220  
ggaagttctc ctggataata tcctgcagag tggttccaa cttggttcca ttctccacat 17280  
cacttcagg tacaccaatc agacgttagat ttggtctttt cacatagtcc catatttctt 17340  
ggaggctttg ctcatttctt tttattcttt tttctctaaa cttccctctt cgcttcattt 17400  
cattcatttc atcttccatt gctgataccc tttcttccag ttgatcgcattt cggctcctga 17460  
ggcttctgca ttcttcacgt agttctcgag ctttggtttt cagctccatc agctccctta 17520  
agcacttctc tgtattgggtt attcttagtta tacatttctc taaattttt tcaaagttt 17580  
caacttctt gccttgggtt tgaatgtcct cccgtagtc agagtaattt gatcgtctga 17640  
agccttctc tctcagctcg tcaaaatcat tctccatcca gctttgtctt gttgctgggt 17700  
aggaactgcg ttcctttgga ggaggagagg cgctctgcgt ttttagagttt ccagttttc 17760  
tgttctgttt tttccccatc tttgtgggtt tatctacttt tggtcttga ttaggtgtat 17820  
gtacagatgg gtttcaagt tagatgtcct ttctgggtgt tagttttctt tctaaccagac 17880  
aggaccctca gctgcagggtc tggttggaaata ccctggccgtg tgaggtgtca gtgtgcctct 17940  
gctgggggggt gcctcccagt taggctgcgc gggggtcagg ggtcaggac ccacttgagg 18000  
aggcagtctg cccgttctca gatctccagc tgcgtgctgg gagaaccact gctctttca 18060  
aagctgtcag acagggacac ttaagtctgc agaggtact gctgtcttt tgggggtctg 18120  
tgccctgccc ccagaggtgg agcctacaga ggcaggcagg cctccttgag ctgtgggtgg 18180  
ctccaccctag ttcgagcttc ccggctgctt ttttaccta agcaaggctt ggctatggcg 18240  
ggcgccccctc ccccaggcctc gttgcccgcct tgcaagtttga tctcagactg ctgtgctagc 18300  
aatcagcgag attccgtggg cgttaggaccc tctgagccag gtgtgggata tagtctcgtg 18360  
gtgcggccgtt tcttaagccg gtctgaaaaag cgcaatattt gggggggagt gacccgattt 18420  
tccaggtgcg tccgtcaccc ctttctttga ctggaaaagg gaactccctg atcccttgcg 18480  
cttcccaggt gaggcaatgc ctgccttcgc ttccggctcgc gcacggcgcg cgcacacact 18540  
ggcctgcgcc cactgtctgg cgctccctag tgagatgaac ccggatccatc agatggaaat 18600  
gcagaaatca cccgtttctc gcgtcgctca cgctggggagc ttagagccgg agctgttcc 18660  
attcggccat cttggctctt ccctccaatt ttttgggtt tataatccagc agtgggattt 18720  
ctggatcaca tggtaatttt taattttttt aagaatcatc atactgtttt ccacggcgc 18780  
agcaccattt tatgttccca ccaacagttc attcttagttt ctccacatcc ttgccaacac 18840  
ttgctatttt ctcttttga cagtacccat cctaatttgatgt gtgaggtcct gtctcattgt 18900  
ggttttgatt ctggaggcattttttaagctt tttgtttcat tataattttt attggattac 18960  
aaaaggaaca caggttaattt tatttggaaa ctatggaaaa taataaaaaat tatcttctca 19020  
gaaaatgatt cttgttaaca tttaagctca gttaagctct ctcactttctt cttcccttctc 19080  
tctctttgtt caacttttaa aaaatatagt aggggtgaga ctatatgtat ctataactata 19140  
gtaggggtga gactatatgt atccttcctt tttcaactttaa tctcatgcct tgagtagctt 19200  
tccactttat taaaaatgtt atgccattca attgtatagt aaatacatat atgttaagcaa 19260  
aacactgaaa actcttatttcc tgggttccag caagccatac ctggaaatggt gtaagcaggt 19320  
agtttgcttgcgt gtgtgaacgt gttgttgagg cagctgcattt tgggttgcgtt gttggccaca 19380  
cgaacttgcgtt ctgttgcgtt tagacagtgt gtgtgtatcc tatttaggaac agccaacgc 19440  
ttgtgtgagc cacacacggc tctaagtgtt ttgcttgcgtt taactcagtg aatcctcaca 19500  
actccatgac ggaatgctct aattatcccc attttataga tggggcaact gaggtccaag 19560  
agactacata atttcccgaa gttcacacag gttagcagatg gcagagccgg gtcaggagtc 19620  
caccatctta ccacgcagac tggggtagcc agagactctc cggatctgtt gtaggggaca 19680

gaatacagct ttatcgccgc acctgtccac caagatggcc gtagccacag agcttggttg 19740  
ggtaacgtcc tctttatgtg acaggaacgt tgctgtatgg gtttctgaag gtacttcctg 19800  
ctctttgtct cctggaagac tgtgtcttca ggaatgtctc tgaccctgcc cagagttgaa 19860  
cggatgctgg gaaccaggca cctgcacacag gcctccctc caggactctg cgccacccctg 19920  
tgctccacag gagacatgca ggtgctttct ctcatgagct caggctccctg ggctgacagc 19980  
tctccgaagc tcgtggtag gctcggcttc taactgtgcc acttggccat ggcctctgtt 20040  
cacaaggctt cccctgctct tcgatcttgc atcacccctt gaatttggaaa tccagagcag 20100  
cccactcaga gaccagtgtg aggaattagt gtccaggcca cagatccagg gactgggcac 20160  
aaacatctgc ctgttgagta ggaactgagc tgtggccatt ggcaaaaaaag gaggggttag 20220  
catggctgtt tcttggggag ctaacattca ctatcttgc tcctccctca ggatgtgggg 20280  
caatcaagtt gggatgaag gagcaaaagc cttegcagag gctctgcgga accacccca 20340  
cttgaccacc ctgaggtaac tgtggccctg ctgtctccag gggccaaacct ggtccctccc 20400  
agctgctcta ggtttgctgg ggaagggtga ttctgtctcc taatagaaga ggaatttgca 20460  
tgtgtgattt tccttactct tgtcaaacct ttctttgtatg cataagaggc catctagtaa 20520  
agcacattct tctcttttt taactttaag ttctggata catgtagaag atgtgcaggt 20580  
ttgttacata ggcaaatgca tgccatggtg atttgctgca cctatcaacc tgtcatctag 20640  
gttttaagcc ctgcatgcat taggtatttg tcctaatgtc tgccctcccc ttgcccccca 20700  
cccccaacag gccctgggtgt gtgtgtttcc cctccatgtg tccatgtgtt ctcattgttc 20760  
aactcccact tacgagtgag aacatgcagt gtttggtttt ttgttcctgt gttagttgc 20820  
tgagaatgat ggttccagc ttcatccatg tgccagcaaa ggacatgatc tcatttttt 20880  
ttatggttgc atagtattcc atagtgtgtt gttgtccacat tttctttatc cagtctatca 20940  
ctgatggca tttgggttgg ttccaagtc ttgttattgt aaatagtgtc acaataaaaca 21000  
tacatgtgct tgtgtcttta tagcagaatg atttataatc ctttggtaa atacccagta 21060  
atgggattgc tgggtcaaat ggtatttctg gttctagatc cctgaggaat caccttaagt 21120  
gtttatttcag ctcagtgaat tctgcattgt tcccacacca gccaaccacc acccccatca 21180  
agacagagga cattccagc ccctcagcca tccctgcattg tcccttgcgt gtagagggag 21240  
ggtttcccaa gtgcagatga aacttaataa gatgctggcc agcagattcc tgcccttcc 21300  
ttgtcctcag gatgtatgt gaaaagaggg actcttcctc tctataaaatg gggatgcacc 21360  
tacccagccc ccgcatttaggc tgctggccaa atcttggac cttggatgt ccacggctct 21420  
gctgctgttc ttccattaccac tgaaaaagag tccaaagaagg tggggacagt agcagaagag 21480  
actttgccag gtctgcaga tgggttaccc ttagtggggcc agcctttaga aggacagctt 21540  
gccaggccctc gccagccctcc tgcccatgtg cagaaacctg aggtgccgac cccagccac 21600  
tgttgtgtga gcaggctgtg ctgatgaccc atttccctgc cagcctgccc ttgtgtctcg 21660  
tgtgtggct ctggggcagc agcgcctggg cactactgtc gcagctgaac acttctgcat 21720  
cctgccccca gtgagcctgg gctggggcca cagccaggca gaggcttccc agctgttctg 21780  
atgttgaagc taagattgaa ttagatgtg tctttaataa ttcaccccaa gtgtgttcc 21840  
tccttagtct gcgtccaacg gcatctccac agaaggagga aagagccttgc cgagggccct 21900  
gcagcagaac acgtctctag aaatactgtg gtaatagctc gagtcatttc atttgggtt 21960  
ttgttttct gtgatagggc tttgtttgt cgtccaggct tgagtgcatt ggtgtatct 22020  
cagctcactg cagcctccac ctcccaggct cattcgaacc tccgccttgc gcctccgag 22080  
tcctgagact ataggcatgc accaccacac ccagtttaatt taaaatttt ttgttagagat 22140  
ggggtttgc tatgttaccc aggctggctc tgaactccctg ggctcaagca gtttcctgc 22200  
cctggcttct caaagccctg ggattgcagg tgtgagccac tgcacccctggc acagagtcac 22260  
tttggaggggt ttaggtccca ggaattatcc cagggctgc acatggccctg gaatcttaac 22320

agaaaagggt tctcccaatt ggaaaggctc taggccttc agttaagttg ataatttcct 22380  
cctagagaag agaatagcca cttctacaag cataaacagg tacaggagga ggaagtggc 22440  
tccgggagcc tggatcttag gccttggcct tctaggcccc aggagaacta gaacgctggc 22500  
catgcaagct atccaggtat ccttgatac cttcagatgt gcttagcaga gcccaacttc 22560  
cacacacttgc gctcaaaatt ttctcccttc ctccctttca tctgccttcc cccaggcgc 22620  
ctcctcccttc cccaggtctt cacatcaggg tttggcctt atgctccatc cagctcatct 22680  
gtcacttgc acctgaagcc cacagtcctc gctcccttc tgcaactctag ggcacttact 22740  
aagtggatgt ggcctcctga gagtgtttt tggtgggttt cccttttta tggccactta 22800  
atgttttatt ttgctttatt tgcatttaca tctctgtatc ataaattcca tacaggtggc 22860  
tgggagcagt gactcacatc tgtaatccc gtactttgga aggctgaggt gggaggatcg 22920  
cttgaggcca agagttcgag actagcctgg gcaatatacg gagaccctct atctacaaaa 22980  
aaaaaaaaaca ttcccttacag gttaagttag gtagttgtat tacaaccctc cctatcatct 23040  
actcagagcc cagtgcctat ttgatcttgc taaatttagtt actgagaata atgacaatat 23100  
cctcttcatg agagagttt gacattaggc ctgctgtcca gtaagtgcattt tttaaattct 23160  
ttcccttcaa caaatcattt aacattttga aaagtagttt atgtttttt gaaaaaaatgt 23220  
aagacactaa aggaggacat gaaagtacct cctaaagttc ctgctaaaag gaggaagtga 23280  
aagtacctcc ctttgtgttt tccaaaataa cctttccctt cttagcctttt gttctatgt 23340  
tgttcaaaga tatgcaaaaac agaatagcat tcaaggcgtg gctctaaaaa tattgtatc 23400  
acatacttta catgtctcct ttagggttcc tccatcttga tgctgttgac attttggtcc 23460  
aagtgattct ttattatggt agggctgtcc tgtgcattcat agacggtttta gccgcatttc 23520  
tgccctgtac cttccagtg tgaggatcaa aaatgcctcc ggacatggcc aggtgcccc 23580  
tggagagtga aatcacatgg atagtagtaa tgtcaacacc tagaagccct caagtgcgt 23640  
ctgcatttcca tgtgttattt tacactttt ccctgtgtt actcactcag cctcacaacc 23700  
actctatacg atctctactg ttaacgttca ccagttagaa aactcagacc caaagaactt 23760  
aaggcctgtt cccgagggtca ccctgtggg gggtgataca aacctgcccc ggctgagttc 23820  
ggagtagatg tcaatgctgt gttcttctcc ctccttattt taccttattt tccctacaag 23880  
ctgcacaaca tctcgaatag atatcacaat atatttcatc agttgtttt gatctaaatt 23940  
tgtttagattt ttacatttgg ataataccac aatgcattgt gcaatgtata aagctttgt 24000  
tgtatatcct tgacactgtt agggtaaatt tctagaagtc tgattgtctt aaaatgaagc 24060  
acattaaaaa ttggggcagg cacatccaaa ctgccttca aggaattttt ttttttaat 24120  
gttcttctg ttctatttctt cttccataatg attcttctg ccactggcac aagtgggtcc 24180  
taccctgttt acaccaagga gctttgggtc ttatccaga ccacttctgg ttctaaggac 24240  
cattgagaga cttccctgaac tttcagtcac ttaacttggg tccctcacaat gttactgag 24300  
agccaaagtac tgaacacatt ttaatgtgc gtcagtgact gtttcagggtc ttcaactaa 24360  
cttggataac acactgtcag tgggtttca gggaccctgg gactagagga gaactgagaa 24420  
gcaggcattt gccccttggg ttccgtggc ccccatctt catgaaatct gagggtcg 24480  
caaagggtggg gagggagggt gggctccctt acaggttagct gggctaaagaa ataggagccc 24540  
aggtacagga tttgcattaa aaatgagttcc cattgacattt ctgtggggctt gacaggctgg 24600  
gttggagcc tggctgtttt ctgggttctc agcaagttt gatctgcata gttggagagc 24660  
cttgggttca gctcccgctc ctgtgaactc taaaacaatg tctgccaagt aggctcttt 24720  
gagtaaatac ttccctttt ttcccttaggc tgacccaaaa tgaactcaac gatgaagtgg 24780  
cagagagttt ggcagaaaatg ttgaaagtca accagacgtt aaagcatttta tggtaactca 24840  
gagagcccttca caatttcaga ctgtgcactt ttcaaaaatg atttttttagg ataaaattta 24900  
catactgtaa aatttcactt cttaaagtat acaattcaga gtttttagt gcaaccatca 24960

ccacctaatt ctagaacatt ttcactcctc ctccccactc caaaaagccc tggtatccat 25020  
taaggagtca ctcctgtcc tcctcccaag accctggcaa ccactaatcc gctttctgtc 25080  
tctatggatt tgcctactct gggcatttca tataaatgga atcaagcaat atgtgacctt 25140  
ttgtctctgt gttctagcat gtttcattcc ttttatggc taaatgataa ttcactctaa 25200  
ggaaattttgc agtttatta atcagttat gggacatitg ggttgttct acttttgac 25260  
tattatgcgt aatgctactg tgaacactcc tggcatgct tttgggtgaa catatgttt 25320  
catctcttt ggaaatatac ctgggaatag aatttctgg tcatatggca attctgtaac 25380  
tttttgagga gccaccaaac tggggatcaa agtggatgta ctatttaca ttctcgccag 25440  
caatgtatgt ggatccaaat ttctccacat cctcaccaac acttattatt gtccatctt 25500  
taaaatctag ttatactagt ggatgtgaag taatattgtg gtttgattt gcatttcct 25560  
gatgacaaca atgttgaatg tctttttagt tgcctactgg gagtctgtat agttcttg 25620  
gagaaatgtc tccatatcct ttgcccattt taaaattggg tttgtctct aatgctgagt 25680  
tataggggtt ctctatatac tctgggtgct agacctttac tagatacagg ttttgcaagt 25740  
attttcttcc tttctgtgga gttttccctc tttcttgata gtgaccctta aaggacaaca 25800  
gttttaatt tttttttttt tttagatgga gtctgctct tgcacccag acaggagtgc 25860  
agtggcatga tctcagctct ctgcaacccctc cacccctgg gttcaagcga ttcttctgcc 25920  
tcagcctcct gagtagttgg gattacaggc atcagccacc atgcctgtct cattttgtat 25980  
tttaataga gatggggttt caccatttg gcccaggctg gtcttgaact cctgacactca 26040  
ggtgatccac ctgcctcagc ctcccaaagt gctgggatta caggcgaaaa gccactgcac 26100  
ctggccaata gtttttaatt ttgatgaagt ccaatttac tattttttc tttgggtgct 26160  
tgtgcttca gtgtcttatac taagaaatga ttgcctaatac caagatcaca aagaactcca 26220  
cctaagtttt ctgttaagcg ttatagttgt ttccctcac atataggct gcaatccatt 26280  
ttgagttaat ttttgtatag tgtaaagtgaa gggtaaccc tattctcttgc acgtggata 26340  
tccagctgtc ccggcagcac cacgtgttga acagattatc tttccattt gaatggcatt 26400  
gacacccttgc tcaaaaatca attgaccata aatgtatggg tttatcttgc aattctctgt 26460  
tctggtccat tgatttatac gtctcttca tgcaggacc attgctgttag ctgggtgttag 26520  
tacattttga aatcaggagg tgtgagttct actttgttct tctttctcaa gattgttttag 26580  
accattctgg gttcttgca tttcttatac attcagactc accttgtaa tttctgc当地 26640  
aagactagac tctgctacat attgtttttt ctttcccttt tagcctgcag aattatttgaa 26700  
tcccatttcc taagtgcagg ccagccttc cagggagac agagctagga cagggcaga 26760  
aagagagtct tggctgtttt gtgcattttcc aacctgcact ggccttagt aaggcagccc 26820  
gagtggttgg atgtgcctgg acactgcagg ctttttaggg gcatttagtg ctctccttcc 26880  
tggcctctg ccacatcttgc tttggaggtgc gcctccctg cttcaaaaa agcctaagtgc 26940  
gtgactagaa aacagcagag tgtaactgaa tacagaactt ggtgccact tcctgggttct 27000  
attttgc当地 cttttgaaag ggaaggtcat tacctctgcc attgaaccca gggcccttag 27060  
cccttgc当地 gtatggctgg gagcaccaga tcctggctgc agcccgacca ccagtggcc 27120  
tgtgtgcttgc ggcagtaaca gtgacaagag ctcccttccc cctggacact gtgcctaata 27180  
ccctccttgc gaaatctcac acacccagtg gatggggggc actcttatac ttattctcag 27240  
tttacagatg acacaactga ggcacagac gatgcgttgc tttcttcaag gttctgttagc 27300  
tgaacagtgg ggagggaggg tttaaagagga gctgcacccg ctctgcaata ctgcctctca 27360  
cgagggagtc ctcttcatttgc atgacagcat agggccctcg tttcttgc当地 aaggcattcc 27420  
ttcttgggtc agtgcctgg tttcttgc当地 tcatgttttag caggagccata ttctacaaac 27480  
agccaggagc agggaaatgac tctgtgatgaa agcggagaca ctacagcctc ttgtatgcatt 27540  
tatttccttgc ttgggtttaga agcgttagctg cccaaaggag catttcagga gagggccttgc 27600

ttcctagcga tagctgaaaa ctttgttca tttgaatcac tgctaccag aacaatgggg 27660  
tgcattctca gagtccccat tattaaagct tttccactga gccccatgag aactattcat 27720  
gagaactatt tcatacgac ataactgtt ctcctccctc cctcttgcat gttggtagcc 27780  
tcttaacttt aaaacctgcc ttgccttcc cttagctacct ggaaggagac gtcagacttc 27840  
ctgtcccatg gtgtgtttct tacaatttgt ttttcagatt ggtggctccc caaatatata 27900  
taaaaatata aatggagtct cactctgtca cccaggctgg agtgcagtgg cacgatctg 27960  
gctcaactgca acctccaccc cccagttcaa gcaattctcc tacctcagtc tcccagtag 28020  
ctgggagtagc aggtgcacac caccatgccc agctaatttt tttgtatttt taatagagac 28080  
aggtggcca ggatggtac gatctcctga gctcgtgatc cacccaccc ggcctccaa 28140  
agtgcggga ttacaggtgt gagccactgc acccgcccc aaatatttg attatgcacc 28200  
tctgcagtgaa aaaatgcaaa cacacacatc agttcatgtt ttacattatg ttcaactataa 28260  
aaacaaacag aaaattnaa aaatatcaag ctatcctta ctctagtgaa tcttacctgg 28320  
acacttttag ccagatacaa agtcacatgg actcagttct tcccctgacc aacttgtctc 28380  
ttatcccaa acacccttgc aactcccttca cgaagggtc aaatttgatc cagtattatg 28440  
gattttatac aagtatgtt ctctttcag gcttatccag aatcagatca cagctaagg 28500  
gactgcccag ctggcagatg cgttacagag caacactggc ataacagaga tttggtaaga 28560  
tcccagcggtt tgtcacagta ataacaccag tgactgttta ctcaccacca ctgactgtgc 28620  
aaggcacaac gcagggtggt ttctgtttat tcctccagca accctgcaca gtaatggat 28680  
tacctctgtt ttacagaggt agacagagggc ccagaccagt gaaataaggt tgcccaaggt 28740  
caactacgaga gaagctagaa ttcaagccctt aatgcctgtt tccatattct gtgtctcct 28800  
gccctgggcc cccgcctca tctaccttca ttgggtggg tgggggaagt ggccagtgaa 28860  
atgatttctt agtggaaagta aatccccctg ggactcagca attgagagat gactgtgtt 28920  
gccaggagtt tggagctcat tcttccctt ttctgggttc cgtaagacat ttccaggctg 28980  
acttgaactg acctgtgtc tttgtctact tctttttct gctttgagaa cttcctttag 29040  
ctaataagaag aaaaaaaaaa tgctttactg tgacatttag cgccatgcca cttctttctt 29100  
gcctccata aggcacagac actccccact cagcagctcc cttaacaact taattgcctg 29160  
ggtgacgtgg gactgggtgg atgctggag aggcccctt ttaactatgt ctcctttca 29220  
tgactgggaa gaatttcata gccaattttaa aaaaaaaaaa aaacagctcc ttggccaaca 29280  
caggctcctc atacagtgtt ttttaaactt tgcttttagaa ctgttttggaa acttgcata 29340  
aaatcgatca gtttgggtgaa ttgcaaccaa caatattaa aaagaaaaca gaacagaaca 29400  
aaatatcagg atgcaatgtg catggtatga aagtatcatt tcattcatct tagttcatgc 29460  
ttgcatgtga gtgggtgtgt gtttgcataa gtgttgggtc acaacataaa atgtattct 29520  
tatttaggt ttagacaaaa aggttttttt ttaaaaaaaaaa cactgttggc taggcatgg 29580  
ggctcatgcc tgtaataccca gcactttggg aggccaagat gggcagatct cttgagcaca 29640  
ggagttttag accagcctgg gcaacatgctc aaaccccgac actacaaaaa ttagccgac 29700  
atggtgctat gtgcctgttag tcccagctac tcaggaagct gatgtggag gatggatgca 29760  
tgggagatca aggctgcagt gagccaggat catgccactg caatccagcc tgggtgccag 29820  
agaccctgtc tcaaaaaaca aaaaagaaaa aaagaaaaac accatcatag agaatagagc 29880  
ccagatctaa acagacaccc gtggcctgtg tgcctgcgaa gcccagctg cccagcagcc 29940  
tggaaagcac tggagggcac tggaaactgtt tgcattgggtg tttgccttca ggccactccg 30000  
tttctgctga ttcttaagtt ttgaggacag caggcagagg gggagaggaa ggagactgcc 30060  
agactacaga acagtttgca gagcacagtt ggctccact tttctgtta gctggtcagg 30120  
cggttagtaa agacctacag ttgccttaat tctgtcaagt ttcaaaaatct gcattgcctc 30180  
cctctgagg gtcaccattc ctacacaagg aaccattta gtagggccag gagacttcag 30240

cttcaaggcc tgcacttgtc tcaggggtgga gaggggaact ggccaccaat tcagagaggg 30300  
caggacaggc ggcattgggtg ctggtcttgg gagtgtcttc acttaggtcc ctggcttgg 30360  
ctgggagcct ccagagcatg ctcctctgtg tgtgacttca tgggactggg ctctgagaag 30420  
gctgtggctt tggtggccct gccaggact gccacaccag gccacagggt tgtggttgag 30480  
ctggccgggg agccacgttc agggagcagc tctgcttggaa gccaacactt acagagtaag 30540  
ccttccttgg gacttgttta actgtactga cacttatttc tacctcattt ctttctgaaa 30600  
ataacttggaa agtctgaagt cccttgatga gttctgtctt taagaacaga aattagaggt 30660  
gaacaatgaa cactgtaaat tacagaaatg tatcccactc cagtataaca gcttctgtg 30720  
aggctatctc ctccagactg tggctctggg aggggtgggc ctgagtcaag gtcctaggaa 30780  
ctagtgctgt gtcttcattt attccttggaa taacgaaacg cttgagcattc agggactgtg 30840  
ctagcaccaa aaatccagtg gtgaacaaca tggcttcatg ggttcaactgt ctagaaagg 30900  
agaagcacat taaagaaaaaa atcatttgcg taatttattta attacaactg tgatgggtac 30960  
tatcacaaag gggaaaggcca agagggaaacc tgattnagat gaggttgcag ggaaggcctc 31020  
tctgaggaag cagcacttac actaaggccat gaaggatgaa taggagctag tcagctgagg 31080  
tgagtattct gcgtagggaa cagcatgtgc aaagggtctg gggcaggagg gagtgtgg 31140  
tcctggaaga actgccagaa gctgctgtgc cccagggttc agacagtgtg gaagaggg 31200  
ctacaggagg ctgaggagat aggcaaggac tggaccataa aagatctgtg ggtcatgtat 31260  
tgcattttgg tctttatcct aaaagtgtatg gaaagtcaatg gaacagttt aagcaggaga 31320  
ggcatgtat cagatctgca atgcaaaaag accaattctt ggctttctta ggaaactgaa 31380  
ttggagaagg ccagagtacg tggaaatgac ctgtcagtag gacattgtac tgatgcagg 31440  
aagagatgat ggggtctcag accaagatgg ccggccaaag acatagaggt tccaggagg 31500  
cattctagat tcttaggaat tagggagaa ctttgtata caaggaacat gggatgaga 31560  
aggaaggtgt ccaggttgac ccccaggta ctaacctgtc cagcaggatg agagtggc 31620  
attcaactaag ccagggggacc cttaggaggta tggctacttt gaggtgtggg ggagagg 31680  
aagtgaggat gccaagcagg taactgcctc cacggacata caaacaaggc cgtggcattt 31740  
atgagatcgg gtggggaaaa gggcttagcc ccaaaccctgg aggaaatctc agatgttagag 31800  
gtcacatgga ggagaatata ggaaaggaaa ttgaagtaga gtgctcagat gcaggagaaa 31860  
aatcagcgcata tataaccaag ccaaggggag ggagtgcctc aagaaggagg gagaggag 31920  
gtcaggacacg ccaaaccctt gaggggccaaag aaagacaaga cctggaaaat gtcattaaat 31980  
tcaggcttat ggaggctaca ggtgacccata gtgagaccca gtgaacagag ggatggcagc 32040  
tggagaggat ccatgcta atgaaggaac tatctgcaaa gggtatgttc cttaatttca 32100  
gggatacatg tgtattgtgt gatacacgag tgtgtctat gaacacaccc tgggaggag 32160  
tgtgcgagga tccttaacat tttacctgtg tactttgtc ttccctccctt tcaacagcct 32220  
aaatggaaac ctgataaaaac cagaggaggc caaagtctat gaagatgaga agcggattat 32280  
ctgtttctga gaggatgctt tcctgttcat ggggttttgc ccctggagcc tcagcagca 32340  
atgccactct gggcagtc ttgtgtcagt gtcttaaagg ggcctgcgc ggcgggacta 32400  
tcaggagtcc actgcctcca tgatgcaagc cagttccctg tgcagaaggt ctggtcggca 32460  
aactccctaa gtacccgcta caattctgca gaaaaagaat gtgtcttgcg agctgttga 32520  
gttacagtta atacactgtg aagagacttt attgcctatt ataatttattt ttatctgaag 32580  
ctagaggaat aaagctgtga gcaaacagag gagggcagcc tcacctcatt ccaacacctg 32640  
ccataggagc caacgggagc gagttggtca ccgctttt cattgaagag ttgaggatgt 32700  
ggcacaaaatg tggtgccaag cttcttgaat aaaacgtgtt tgatggatta gtattatacc 32760  
tgaaatattt tcttccttct cagcaatttc ccatgtattt atactggtcc cacttcacag 32820  
ctggagacac cggagtatgt gcaactgtggg atttgcactcc tccaagg 32880

taatgtcaag gaaaggatgc accacgggct tttatattta atcctggagt ctcactgtct 32940  
gctggcaaag atagagaatg ccctcagtc ttagctggtc taagaatgac gatgccttca 33000  
aatatgtctc tccactcagg gcttctcctc tgcttaggcta ccctcctcta gaaggcttag 33060  
taccatgggc tacagtgtct ggccttgga agaagtgatt ctgtccctcc aaagaaaatag 33120  
ggcatggctt gccctgtgg ccctggcatc caaatggctg cttttgtctc ctttacctcg 33180  
tgaagagggg aagtctcttc ctgcctccca agcagctgaa gggtgactaa acgggcgcc 33240  
agactcaggg gatcggctgg gaactggcc agcagagcat gttggacacc ccccaccatg 33300  
gtgggcttgt ggtggctgtct ccatgagggg ggggtgata ctactagatc acttgcctc 33360  
ttgccagctc atttgttaat aaaatactga aaacactctt acgggttgag tctggagttt 33420  
ttgaaggac ttggcttggt aagcactcat tgactcctga gccccatcct gattcaactcc 33480  
acagtggggg aggggctctg gggtgatgtg ctatgaggag agcctgatga agggcagggg 33540  
tgtcaccagt ttgatccttc acaggcctct ctgcctacca agggacagga agcggctgtg 33600  
gcagcctctg aggtctctcc atctggccctc tgaatctctt caggtggctt ctcagaggaa 33660  
ataacttgtg agtagggggt ggctggtgcc aggacaggcc aagtggccca aagttcatgc 33720  
cttcatcacc atgcccattgtt agagcccacg ggccagggttc gacgtccact accttcctcg 33780  
gctgttcaact gctgagtgcc ggatccagggtt agggccatgg caagaagcac cgagctgcca 33840  
ggggcagcac gtgacagagg aaggcatgca gggcctccaa cggtccacct ctgagttctt 33900  
atgagtccaa gcctggcttt gtagagcagc ctgttagaa ggggaccggtt gcgggggaaa 33960  
tcctgtacag ttaagcaact acaaggcggc agttccttaa a 34001  
<210> 16  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 16

cctgacttac aatcacttg

20

<210> 17

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 17

agcaacttgtt cttcccccagac

20

<210> 18  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 18  
aattgcttct gtctttcca

20

<210> 19  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 19  
aacattgttt aaatcttcaa

20

<210> 20  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 20  
gtcctctcag cagaaggca

20

<210> 21  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 21

ctgctttcc atagttaaag

20

<210> 22

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 22

tctgatggga ttatttccat

20

<210> 23

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 23

ccagaaggta ccgattgctt

20

<210> 24

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 24

ttttgcggac cttgtcaggc

20

<210> 25

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 25

tgctgggtat acctgctcac

20

<210> 26

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 26

tcattgagga tgccggtggt

20

<210> 27

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 27

tcacccagga tgaagatggt

20

<210> 28

<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 28  
cagctcggtcc agggccatcga

20

<210> 29  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 29  
tcagggtccaa gtcccgagtgc

20

<210> 30  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 30  
tagccccctt gagcagcttc

20

<210> 31  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 31

ctcgatgcct gtgcgggctg

20

<210> 32

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 32

tccagctggc tcagcaggcg

20

<210> 33

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 33

cggaaagtgc ggaagcacccg

20

<210> 34

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 34

catcctgttc agatggacct

20

<210> 35  
<211> 20  
<212> DNA  
<213> Artificial Sequence

&lt;220&gt;

&lt;223&gt; Antisense Oligonucleotide

<400> 35  
caccaggctg ctgggctgca

20

<210> 36  
<211> 20  
<212> DNA  
<213> Artificial Sequence

&lt;220&gt;

&lt;223&gt; Antisense Oligonucleotide

<400> 36  
cacagagtgt cccggccggc

20

<210> 37  
<211> 20  
<212> DNA  
<213> Artificial Sequence

&lt;220&gt;

&lt;223&gt; Antisense Oligonucleotide

<400> 37  
gcccccagcga gcacagagtg

20

<210> 38  
<211> 20  
<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 38

cctgcaccctc ctcctgggtg

20

<210> 39

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 39

tgtcgtccag cacgaggaag

20

<210> 40

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 40

gtggtcgctg ccccccgcagg

20

<210> 41

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 41  
gcaggacgtg gtcgctgcc

20

<210> 42  
<211> 20  
<212> DNA  
<213> Artificial Sequence

&lt;220&gt;

&lt;223&gt; Antisense Oligonucleotide

<400> 42  
tggaagtgtat ccttgttctt

20

<210> 43  
<211> 20  
<212> DNA  
<213> Artificial Sequence

&lt;220&gt;

&lt;223&gt; Antisense Oligonucleotide

<400> 43  
ccgcaggagt ttctgtttgg

20

<210> 44  
<211> 20  
<212> DNA  
<213> Artificial Sequence

&lt;220&gt;

&lt;223&gt; Antisense Oligonucleotide

<400> 44  
gccttgcgt ttctcctcag

20

<210> 45  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 45  
cccgaggct ggaaaacagg

20

<210> 46  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 46  
ttgcagtagg tcagcttgag

20

<210> 47  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 47  
gggctgcagc tcccccacgc

20

<210> 48  
<211> 20  
<212> DNA  
<213> Artificial Sequence

&lt;220&gt;

&lt;223&gt; Antisense Oligonucleotide

&lt;400&gt; 48

aacagtgagg cggtctgaagc

20

&lt;210&gt; 49

&lt;211&gt; 20

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Antisense Oligonucleotide

&lt;400&gt; 49

tctggttgtt gtataaaaccc

20

&lt;210&gt; 50

&lt;211&gt; 20

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Antisense Oligonucleotide

&lt;400&gt; 50

tttgctgttc ttcacagcca

20

&lt;210&gt; 51

&lt;211&gt; 20

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Antisense Oligonucleotide

&lt;400&gt; 51

ggttccgcag agcctctgcg

20

<210> 52

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 52

ggacgcaaga ctcagggtgg

20

<210> 53

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 53

ccctcgcaag gctcttcct

20

<210> 54

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 54

ctggataagc cataaatgct

20

<210> 55

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 55

aaatctctgt tatgccagtg

20

<210> 56

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

\*  
<223> Antisense Oligonucleotide

<400> 56

tccattnagg caaatctctg

20

<210> 57

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 57

ctcctctggt tttatcaggt

20

<210> 58

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 58

agcatcctct cagaaaacaga

20

<210> 59

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 59

cagggcaaaa accccatgaa

20

<210> 60

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 60

gcctgcgcag gcccctttaa

20

<210> 61

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 61

gtctcttcac agtgtattta

20

<210> 62  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 62  
gcctcctctg tttgctcaca

20

<210> 63  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 63  
atgaggtgag gctggccctcc

20

<210> 64  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 64  
caactttgtg ccacatcctc

20

<210> 65  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 65

gggaccagta tcaatacatg

20

<210> 66

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 66

tgcatccttt ccttgacatt

20

<210> 67

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 67

gccagcagac agtgagactc

20

<210> 68

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 68

agagctgagg gcattctcta

20

<210> 69

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 69

gaagcagcat tttgaaggca

20

<210> 70

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 70

tactcagcct tctagaggag

20

<210> 71

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 71

cagctgcttg ggaggcagga

20

<210> 72

<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 72  
gctggcccaag ttcccagccg

20

<210> 73  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 73  
ttaacaaatg agcgggcaag

20

<210> 74  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 74  
tcagtatttt attaacaaat

20

<210> 75  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 75

agatacacac tcactcagtg

20

<210> 76

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 76

tttccaaagt cccaaatagg

20

<210> 77

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 77

ttttcccagt ctggctccga

20

<210> 78

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 78

tccccagctct tcactcagac

20

<210> 79  
<211> 20  
<212> DNA  
<213> Artificial Sequence

&lt;220&gt;

&lt;223&gt; Antisense Oligonucleotide

&lt;400&gt; 79

ggctccaagg ccagcctgtc

20

<210> 80  
<211> 20  
<212> DNA  
<213> Artificial Sequence

&lt;220&gt;

&lt;223&gt; Antisense Oligonucleotide

&lt;400&gt; 80

tcagcccaag gctctccagc

20

<210> 81  
<211> 20  
<212> DNA  
<213> Artificial Sequence

&lt;220&gt;

&lt;223&gt; Antisense Oligonucleotide

&lt;400&gt; 81

actcaagaga gcctacttgg

20

<210> 82  
<211> 20  
<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 82

ttacaatcac tcagtgtcac

20

<210> 83

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 83

aagtctcctg acttacaatc

20

<210> 84

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 84

tacgctgagt ctgaaataaa

20

<210> 85

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 85

tttccaaagt ctgggttgaa

20

<210> 86

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 86

ccaggatttt ggtgacgtac

20

<210> 87

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 87

ggacgcaaga ctaggaagga

20

<210> 88

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 88

cgagctatta ccacagtatt

20

<210> 89  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 89  
ctgaaggat ccaaggatac

20

<210> 90  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 90  
actttcatac catgcacatt

20

<210> 91  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 91  
ccaaacactta tgcaaacaca

20

<210> 92  
<211> 20  
<212> DNA  
<213> Artificial Sequence

&lt;220&gt;

&lt;223&gt; Antisense Oligonucleotide

&lt;400&gt; 92

caaactgttc actgactttc

20

&lt;210&gt; 93

&lt;211&gt; 20

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Antisense Oligonucleotide

&lt;400&gt; 93

tccatTTAGG CTGTTGAAAA

20

&lt;210&gt; 94

&lt;211&gt; 3080

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;400&gt; 94

cacgcgtccg acttgctgaa gaatgactac ttctcgcccg aagatgcgga gattgtgtgt 60  
gcctgccccca cccagcctga caagggtccgc aaaattctgg acctggtaca gagcaagggc 120  
gaggagggtgt ccgagttctt cctctacttg ctccagcaac tcgcagatgc ctacgtggac 180  
ctcaggcctt ggctgctgga gatcggcttc tccccttccc tgctcactca gagcaaagtc 240  
gtggtcaaca ctgacccagt gagcaggat acccagcagc tgcgacacca tctggccgt 300  
gactccaagt tcgtgctgtg ctatgcccag aaggaggagc tgctgctgga ggagatctac 360  
atggacacca tcatggagct ggttggcttc agcaatgaga gcctggcag cctgaacagc 420  
ctggcctgcc tcctggacca caccaccggc atcctcaatg agcagggtga gaccatcttc 480  
atcctgggtg atgctgggtt gggcaagtcc atgctgctac agcggctgca gagcctctgg 540  
gccacgggcc ggctagacgc aggggtcaaa ttcttcttcc actttcgctg ccgcattgttc 600  
agctgcttca agggaaagtga caggctgtgt ctgcaggacc tgctcttcaa gcactactgc 660  
tacccagagc gggaccccgaa ggaggtgttt gccttcctgc tgcgcttccc ccacgtggcc 720  
ctcttcaccc tgcgtggcct ggacgagctg cactcgact tggacctgag ccgcgtgcct 780

gacagctcct gcccctggga gcctgccac cccctggtct tgctggccaa cctgctcagt 840  
gggaagctgc tcaagggggc tagcaagctg ctcacagccc gcacaggcat cgaggtcccg 900  
cgccagttcc tgccgaagaa ggtgcttctc cggggcttct ccccccagcca cctgcgcgc 960  
tatgccagga ggatgttccc cgagcggcc ctgcaggacc gcctgctgag ccagctggag 1020  
gccaacccca acctctgcag cctgtgtct gtgcccctct tctgctggat catcttccgg 1080  
tgcttccagc acttccgtgc tgccttgaa ggctcaccac agctgcccga ctgcacgatg 1140  
accctgacag atgtcttcct cctggtaact gaggtccatc tgaacaggat gcagcccagc 1200  
agcctggtgc agcggAACAC acgcagccc gtggagaccc tccacgcccgg cccggacact 1260  
ctgtgctcgc tggggcaggt ggcccaccgg ggcattggaga agagccttct tgtcttcacc 1320  
caggaggagg tgcaggcctc cgggctgcag gagagagaca tgcagctggg ctgcgcgg 1380  
gctttgcggg agctggggccc cgggggtgac cagcagtccct atagatTTT ccacctcagg 1440  
ctcctcacct gtaaaactgg gatcccagta tagactttgg aaatcagtag acaccatatg 1500  
cttcaaaaaa caggggctat taaaatgaca tcaggagcca gaaagtctca tggctgtgct 1560  
ttctcttgaa gtttatacaa caaccagatc accgatgtcg gagccagact gggaaaaaaac 1620  
aaaataacaa gtgaaggagg gaagtatctc gcccctggctg tgaagaacag caaatcaatc 1680  
tctgaggttg ggatgtgggg caatcaagtt gggatgaag gagcaaaagc ctgcgcagag 1740  
gctctgcgga accacccca gttgaccacc ctgagtctt cgtccaaacgg catctccaca 1800  
gaaggaggaa agagccttgc gagggccctg cagcagaaca cgtctctaga aatactgtgg 1860  
ctgacccaaa atgaactcaa cgatgaagtgc gagagagtt tggcagaaat gttgaaagtc 1920  
aaccagacgt taaagcattt atggcttatac cagaatcaga tcacagtctt ttgtgtcagt 1980  
gtcttaaagg ggcctgcgca ggccggacta tcaggagtcc actgcctcca tgatgcaagc 2040  
cagcttcctg tgcagaaggt ctggcggca aactccctaa gtacccgcta caattctgca 2100  
gaaaaaagaat gtgtcttgcg agctgttgta gttacagtaa atacactgtg aagagacttt 2160  
attgcctatt ataatttattt ttatctgaag ctagaggaat aaagctgtga gcaaacagag 2220  
gaggccagcc tcacctcatt ccaacacctg ccatagggac caacgggagc gagttggtca 2280  
ccgctctttt cattgaagag ttgaggatgt ggcacaaaagt tggcacaag ctcttgaat 2340  
aaaacgtgtt tgatggatta gtattatacc tggaaatattt tcttccttct cagcactttc 2400  
ccatgtattt atactggtcc cacttcacag ctggagacac cggagtatgt gcagtgtggg 2460  
atttgactcc tccaagggttt tggaaagt taatgtcaag gaaaggatgc accacgggct 2520  
tttaattttt atcctggagt ctcactgtct gctggcaaag atagagaatg ccctcagctc 2580  
ttagctggtc taagaatgac gatgccttca aaatgctgct tccactcagg gcttcttc 2640  
tgcttaggcta ccctcctcta gaaggctgag taccatgggc tacagtgtct ggccctggga 2700  
agaagtgatt ctgtccctcc aaagaaatag ggcattggctt gcccctgtgg ccctggcatc 2760  
caaattggctg ctttgtctc ctttacctcg tgaagaggggg aagtctcttc ctgcctccca 2820  
agcagctgaa gggtgactaa acgggcgcca agactcaggg gatcggctgg gaactgggccc 2880  
agcagagcat gttggacacc cccccaccatg gtgggctt ggtggctgct ccatgagggt 2940  
gggggtgata ctactagatc acttgcctc ttgccagctc atttgttaat aaaatactga 3000  
aaacacaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3060  
aaaaaaaaaaaa aaaaaaaaaa 3080

&lt;210&gt; 95

&lt;211&gt; 4302

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

<220>

<221> unsure

<222> 72

<223> unknown

<400> 95

ccgcgtccg cgtccccgga ccatggcgct ctccgggctc ttctctagct ctcagcggct 60  
gcgaagtctg tnaacctggt ggccaagtga ttgtaaatca ggagactttc ctgcggtttc 120  
tgccttgat ggcaagaggt ggagattgtg gcggcgatta cagaaaacat ctggaaagac 180  
aagttgtgt tttatggga atcgcaggct tggaaagagac agaagcaatt ccagaaataa 240  
attggaaatt gaagatttaa acaatgttgc tttaaaatat tctaacttca aagaatgtat 300  
ccagaaacct aaaaaggggc tgccgcagagt agcaggggccc ctggagggcg cgccctgaat 360  
cctgattgcc ctctctgtca gaggacacac gcagctgaag atgaatttgg gaaaagtagc 420  
cgcttgctac tttaactatg gaagagcagg gccacagtga gatggaaata atcccatcag 480  
agtctcaccc ccacattcaa ttactgaaaa gcaatcgaaa acttctggtc actcacatcc 540  
gcaatactca gtgtctgggt gacaacttgc tgaagaatga ctacttctcg gccgaagatg 600  
cgaggattgt gtgtgcctgc cccaccacgc ctgacaaggt ccgcggaaatt ctggacctgg 660  
tacagagcaa gggcgaggag gtgtccgagt tcttcctcta ctggccctcg caactcgac 720  
atgcctacgt ggacctcagg cttggctgc tggagatcgg cttctccct tccctgctca 780  
ctcagagcaa agtcgtggtc aacactgacc cagttagcag gtatacccg cagctgcgac 840  
accatctggg ccgtgactcc aagttctgtc tggctatgc ccagaaggag gagctgctgc 900  
tggaggagat ctacatggac accatcatgg agctgggtgg cttcagcaat gagagcctgg 960  
gcagcctgaa cagcctggcc tgcctcctgg accacaccac cggcatcctc aatgagcagg 1020  
ctgcttcaag gaaagtgaca ggctgtgtct gcaggacctg ctcttcaagc actactgcta 1080  
cccagagcgg gaccccgagg aggtgtttgc cttccctgtcg cgcttcccc acgtggccct 1140  
cttcacccctc gatggcctgg acgagctgca ctggacttg gacctgagcc gcgtgcctga 1200  
cagctcctgc ccctgggagc ctgcccaccc cctggctttg ctggccaaacc tgctcagtg 1260  
gaagctgctc aagggggcta gcaagctgt cacagccgc acaggcatcg aggtcccg 1320  
ccagttcctg cggaagaagg tgcttctccg gggcttctcc cccagccacc tgccgcctca 1380  
tgccaggagg atgttccccg agcggccct gcaggacgc ctgctgagcc agctggaggc 1440  
caaccccaac ctctgcagcc tggctctgt gccccttcc tgctggatca tcttcgggt 1500  
cttccagcac ttccgtgctg ccttgaagg ctcaccacag ctggccact gcacgatgac 1560  
cctgacagat gtctccctcc tggctactga ggtccatctg aacaggatgc agccagcag 1620  
cctgggtgcag cgaaacacac gcagcccaagt ggagaccctc cacgcccggcc gggacactct 1680  
gtgctcgctg gggcaggtgg cccaccgggg catggagaag agccttcttg tcttcaccca 1740  
ggaggaggtg caggccctcg ggctgcagga gagagacatg cagctggct tcctgcgggc 1800  
tttgcggag ctggccccc ggggtgacca gcagtcctat gagttttcc acctcaccct 1860  
ccaggcccttc tttacagcct tcttcctgt gctggacgc agggtggca ctcaggagct 1920  
gctcagggttc ttccaggagt ggatgcccc tgcggggca gcgaccacgt cctgctatcc 1980  
tcccttcctc ccgttccagt gcctgcaggg cagtggccg ggcggggaaag accttcaa 2040  
gaacaaggat cacttccagt tcaccaacct tttccgtgtc gggctgttgk ccaaagccaa 2100

acagaaaactc ctgcggcatc tggtgcccgcc ggcagccctg aggagaaaagc gcaaggccc 2160  
gtgggcacac ctgtttcca gcctgcgggg ctacctgaag agcctgcccc gcgttcaggt 2220  
cgaaagcttc aaccagggtgc aggccatgcc cacgttcatc tggatgctgc gctgcatacta 2280  
cgagacacag agccagaagg tggggcagct ggccggcagg ggcatactgc ccaactacct 2340  
caagctgacc tactgcaacg cctgctcgcc cgactgcagc gccctctcct tcgtcctgca 2400  
tcacttcccc aaggcgctgg ccctagacct agacaacaac aatctcaacg actacggcgt 2460  
gcgggagctg cagccctgct tcagccgcct cactgttctc agactcagcg taaaccagat 2520  
caactgacggt gggtaaagg tgctaagcga agagctgacc aaataaaaaa ttgtgaccta 2580  
tttgggttta tacaacaacc agatcaccga tgtcggagcc aggtacgtca cccaaaatcct 2640  
ggatgaatgc aaaggcctca cgcatctaa actggaaaaa aacaaaataa caagtgaagg 2700  
agggaaagtat ctcgcctgg ctgtgaagaa cagcaaatac atctctgagg ttggatgtg 2760  
ggcaatcaa gttgggatg aaggagaaa agccttcgca gaggctctgc ggaaccaccc 2820  
cagcttgacc accctgagtc ttgcgtccaa cgcatctcc acagaaggag gaaagagcct 2880  
tgcgagggcc ctgcagcaga acacgtctc agaaatactg tggctgaccc aaaatgaact 2940  
caacgatgaa gtggcagaga gtttggcaga aatgttggaa gtcaaccaga cgttaaagca 3000  
tttatggctt atccagaatc asatcacagc twargggact gcccagctgg cagatgcgtt 3060  
acagagcaac actggcataa cagagatttgcctaaatggaa aacctgataa aaccagagga 3120  
ggccaaagtc tatgaagatg agaagcggat tatctgttgc tgagaggatg ctttcctgtt 3180  
catggggttt ttgcgcctggaa gcctcagcag caaatgccac tytggcagtttgcgtt 3240  
agtgtcttaa agggcctgc gcaggcggga ctatcaggag tccactgcct ccatgatgca 3300  
agccagcttc ctgtgcagaa ggtctggcgt gcaaactccc taagtacccg ctacaattct 3360  
gcagaaaaaag aatgtgtctt gcgagctgtt gttagttacag taaatacact gtgaagagac 3420  
tttattgcctt attataatta ttttatctg aagcttagagg aataaaagctg tgagcaaaca 3480  
gaggaggcca gcctcacctc attccaaacac ctgcattagg gaccaacggg agcgagttgg 3540  
tcaccgcctt tttcattgaa gagttgagga tgtggcaca aagttggcgtt aagcttcttgc 3600  
aataaaacgt gtttgcgtt aatgttattt acctgaaata ttttctcct tctcagcact 3660  
ttcccatgtt ttgatactgg tcccacttca cagctggaga caccggagta tgcgttgtt 3720  
gggatttgc tcctccaagg ttttgcgtt agttaatgtc aaggaaagga tgcaccacgg 3780  
gcttttaatt ttaatccctgg agtctcactg tctgctggca aagatagaga atgcctcag 3840  
ctcttagctg gtctaagaat gacgatgcct tcaaatgtt gcttccactc agggcttctc 3900  
ctctgctagg ctaccctcctt ctagaaggct gagtaccatg ggctacagtg tctggccttgc 3960  
ggaagaagtg attctgtccc tccaaagaaa tagggcatgg ctggcccttgc tggccctggc 4020  
atccaaatgg ctgttttgtt ctccttacc tcgtgaagag gggaaagtctc ttccctgcctc 4080  
ccaagcagct gaagggtgc taaacggcgc ccaagactca ggggatcggc tggaaactgg 4140  
gccagcagag catgttggac acccccccacc atggtggct tgggtggct gctccatgag 4200  
ggtgggggtt atactactag atcacttgccttgc ctcatttgcgtt aataaaatac 4260  
tggaaaaccca aaaaaaaaaa aaaaaaaaaa aaaaaaggc gg 4302

&lt;210&gt; 96

&lt;211&gt; 1400

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

<221> unsure  
<222> 1394  
<223> unknown

<400> 96

cacgcgtccg cgctactgcg ggagcagcgt cctccggc cacggcgctt cccggccccg 60  
gcgtccccgg accatggcgc tctccggct cttctcttagc ttcagcggc tgcaagtct 120  
gtaaaacctgg tggcaagtg attgttaagtc aggagacttt cttcggttt ctgccttga 180  
tggcaagagg tggagattgt ggcggcgatt acagaaaaaca tctggaaaga caagttgtg 240  
tttttatggg aatcgcaggc ttggaagaga cagaagcaat tccagaaaata aattggaaat 300  
tgaagattta aacaatgtt tttaaaata ttctaacttc aaagaatgtat gccagaaact 360  
taaaaagggg ctgcgcagag tagcaggggc cttggagggc gcggcctgaa tcctgattgc 420  
ccttctgctg agaggacaca cgcaagctgaa gatgaatttg ggaaaagtag ccgcggctgcta 480  
ctttaactat ggaagagcag ggccacagtg agatggaaat aatcccattca gagtctcacc 540  
cccacattca attactgaaa agcaatcggg aacttctggt cactcacatc cgcaataactc 600  
agtgtctggt ggacaacttg ctgaagaatg actacttctc ggccgaagat gcggagattg 660  
tgtgtgcctg ccccacccag cctgacaagg tccgcaaaat tctggacctg gtacagagca 720  
agggcgagga ggtgtccgag ttcttcctct acttgctcca gcaactcgca gatgcctacg 780  
tggacctcag gccttggctg ctggagatcg gcttctcccc ttccctgctc actcagagca 840  
aagtcgttgtt caacactgac ccaggttagga gtcagcccc gcaagaccgc aggcaccagt 900  
gcaagcaggg ccctgggggg tttggtaatg gctggccag ccctgagtgc cacctcagga 960  
agcaggccca ggtgttattt tgattttaga aaggaacagc tgaatcctgt ctcccaagtg 1020  
cagcccaggt ggctgcgatt gaactgcccc cacctcgatg gtctggttt tagaggggcc 1080  
tttggaaagta tggaaatggc ctgtgttctg accccttgc ttcttcctat tctgacatat 1140  
gtagacattt taatggttgc acaaattcaa ggttgttattt tttttcttt aaaaaaatct 1200  
ttagctggac atggtagcac acacctgttag ttccagctac tcaggaggct gaggcaagag 1260  
gactgcttga gccccagagt ctaaggctgc agcgagctat gattgtgccc ctacactcca 1320  
cagcctgggt ttttagagtga gaccctgtct ctaaaaaaaaaaaaaaaa aaaaaaaaaaaa 1380  
aaaaaaaaaaa aaangggcgg 1400